

Catherine Kramer

*“The Russian public was galvanized by this major terror attack on innocent citizens right in the middle of their city. Most shocking of all was the fact that some of the attackers were women... it was a sight that had never been seen or even imagined.”* (Nivat 2005, 413). This excerpt, by Moscow reporter, Anne Nivat was written after a terrorist attack by Chechen rebels on the Dubrovka Theater in Moscow. This is one example of stories that surface daily featuring female suicide bombers, female terrorist attackers or female supported terrorist operations. However, there is little known about what factors facilitate the entry of women into terrorist organizations. This paper hypothesizes that as gender equality between women and men increases, the presence of women in terrorist organizations in that state will increase. When women are granted the same opportunities to participate politically, socially, and economically in society, it can be expected these women will be more likely to participate in terrorist activity. However, using a multivariable logit model, the results somewhat refute the proposed hypothesis; some evidence shows that as women gain parity with men, it is less likely they will participate in terrorist organizations.

## **LITERATURE REVIEW:**

For the purposes of this study, definitions from the MIPT Terrorism Database will be used to

clarify what terrorism is and what constitutes a terrorist group. MIPT defines terrorism as:

“Violence, or the threat of violence, calculated to create an atmosphere of fear and alarm. These acts are designed to coerce others into actions they would not otherwise undertake, or refrain from actions they desired to take... Terrorist acts are intended to produce effects beyond the immediate physical damages of the cause, having long-term psychological repercussions on a particular target audience.”<sup>1</sup>

Secondly, a terrorist organization is defined as a group of individuals who belong to an “autonomous non-state or sub national revolutionary or anti-governmental movement who are dedicated to the use of violence to achieve their objectives.”<sup>2</sup>

A review of the current literature reveals two schools of thought on the participation of females in terrorism; an organizational perspective and a participant perspective. Literature from the organizational perspective is the most pervasive and comprehensive, likely due to two factors. First, the study of organizations is simply less complicated than studying the motivations of individuals because the data is easier to obtain than data on individual females who have participated in terrorist activities.

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<sup>1</sup> “Glossary: MIPT Terrorism Data Base.” Retrieved November 25, 2007, from MIPT Terrorism Data Base Web Site:

<http://www.tkb.org>

<sup>2</sup> MIPT

Second, information yielded from organizational studies has the potential to be more useful in counter-terrorism measures. Studies from the participant perspective mostly consider the psychological and emotional factors that are complex, and vary from participant to participant. Conclusions from these studies do not easily apply to counter-terrorism strategies or policies.

*Organizational Perspective:*

Literature from an organizational perspective seeks to understand the motivations of the terrorist groups in recruiting and using female participants in their activities. There is a strange dichotomy between the invisibility and visibility of women that make their involvement in terrorist activities attractive to terrorist organizers. The invisibility of women in society creates a tactical advantage to terrorist groups that capitalize on the cultural and societal perceptions of women as non-violent and passive. (Cunningham 2003 and 2007; Fanon 1988; Von Knop 2007; Nivat 2005) In many societies, there is an assumption that females are biologically more passive, nurturing, and caring, and non-violent that would be unwilling to engage in the type of violence associated with terrorist organizations. Due to the prevalence of these gender norms in societies, females evade searches and may elicit less attention than male terrorists. (Cunningham 2003) Terrorist organizations take advantage of the power embedded in these stereotypes because women can remain “under the radar.” For example, Fanon demonstrated how Algerian women joined groups resisting French occupation in

the 1950s. (Fanon 1988) The French promoted modern European dress for female Algerians, discouraging the donning of the traditional veil, therefore, women working for the resistance groups were able to pass security points with ease and travel into French occupied areas with little hassle simply by being less suspicious than their male terrorist counterparts. (Fanon 1988) Cunningham also noted women are better able to conceal weapons or bombs as they invoke the look of pregnancy. (Cunningham 2003) Additionally, many societies are sensitive about searching women's bodies so they may not be subjected to the same level of scrutiny as men. (Cunningham 2003) Finally, using females is advantageous to terrorist organizations because they increase the total number of participants and strengthen the organization's financial base. (Von Knop 2007; Blee 2005) Excluding women from organization terrorist groups could potentially reduce the number of participants by half.

The visibility of females in terrorist operations makes them extremely valuable in terms of the publicity their participation may generate. When females are involved, they typically receive a great deal of press, leaving a lasting impression on the victims of the attack and on the public. Female participants transgress conventional gender norms by displaying violent behavior that is disturbing to conventional sensibilities. (Cunningham 2007; Nivat 2005) In her study of the attack by Chechen rebels on the Dubrovka Theater in Russia, Nivat found that the female participants compounded the fear felt by the Russian people. (Nivat 2005)

“Most shocking of all was the fact that some of the attackers were women. Devout Muslim women, always thought have as subservient and anonymous in their long-flowing chadors, were wearing explosive belts tied with detonator cord. It was a sight that had never been seen or even imagined.” (Nivat 2005, 413)

The central goal of any terrorist organization is to instill a sense of fear in the targeted population. The image of society’s caretakers engaging in violent activities that destroy human life, as opposed to nurturing it, has the potential to greatly increase the fear felt by victims of terrorism. If assumptions of women's visibility and invisibility are accurate, it could be expected that women are potentially more valuable to terrorist organization in states where gender equality is minimal.

A sub-set of the literature from the organizational perspective sheds some light on the motivations of female participants. These studies make a connection between the ideology of an organization and the level of female participation. Studies indicate the levels of female participation are higher among leftist organizations than rightist. (Weinberg and Eubank 1987; Ness 2005; Cunningham 2003 and 2007) Weinberg and Eubank, who studied terrorist groups operating in Italy during the 1970s and 1980s, found female participation in groups was “skewed overwhelmingly to the left.” (Weinberg and Eubank 1987, 249) Not only are females more likely to be in leftist organizations, but they also

tend to be in leadership positions. (Weinberg and Eubank 1987, 257) The literature argues the reason females are drawn to leftist organizations could be that females identify with the ideological message of these groups, or the more egalitarian norms of group result in a greater representation of females. (Cunningham 2003; Weinberg and Eubank 1987; Talbot 2001)

Additionally, Ness documented a divide in female participation between groups with secular ideologies opposed to groups with religious ideologies. (Ness 2005) According to Ness, “throughout the 1990s women and girls participated almost exclusively in secular organizations because of the intense significance that religious extremism places on females remaining in traditional roles.” (Ness 2005, 353) Generally, both secular and leftist groups challenge traditional roles rather than seek to restore them, which could explain the attraction of female participants. (Ness 2005) However, according to Ness, this divide may become less distinct as more females participate in both types of groups. Based on a review of the literature, it can be expected that groups with leftist ideologies will attract more female participation, while groups with religious ideologies will likely have fewer women participants.

#### *Participant Perspective:*

The second school of thought in the literature examines the phenomena from the perspective of individual participants. This literature focuses on four aspects: a psychological approach, females as

outsiders, females participating in order to obtain gender equality, and the individual socioeconomic backgrounds of participants. Each of these aspects will be examined in some detail.

First, one psychological explanation is the same for males and females, arguing that individuals participate in terrorism because of mental defect or ineptness. (Talbot 2001) More complex psychological approaches specific to females is the “maternal-sacrificial affective code.” (De Cataldo Neuburger and Valentini 1996) Psychologically, “women tend to develop their experience in accordance with an affective model based on sacrifice, on caring for others, on responding to others’ needs and on protection.” (De Cataldo Neuburger and Valentini: 81) Females learn the sacrificial role through their mothers and adopt this sacrificial role when joining terrorist organizations. Additionally, Mitscherlich-Nielsen argued that females may have “savagely enjoyed triumph to experience a reversal in the dominance relationship between men and women, and to see men tremble from their acts of violence.” (De Cataldo Neuburger and Valentini: 83) Mitscherlich-Nielsen further argued that by perpetrating acts of violence, female terrorists are showing their mothers it is possible to oppose the domination by the “man-father-husband,” and as a terrorist, is now sacrificing herself for the oppressed of the world. (De Cataldo Neuburger and Valentini: 83)

Secondly, the individual perspective defines female participants as outsiders in the male-dominated world of the terrorist organization. By entering this male domain, females become victims

of male power, domination and coercion. (Robin 1989 and 2001; Von Knop 2007; Nivat 2005; Berko and Erez 2007; Weinberg and Eubank 1987) Female participants become, according to Robin “token terrorists.” (Robin 1989 and 2001) The private domain of family and personal relationships is gendered as female, while the public is defined male. These two private and public spheres have served to clearly relegate males and females to one or the other. (Cunningham 2003; Herzog 2004) Participation in terrorist activity is inherently violent and these activities are undoubtedly gendered male, considered part of the public domain. In order to bring a female into the public domain, there must be some connection to the private domain. For example, a female may have a relationship with a male participant or have suffered from personal tragedy such as the death of husband or son. Nivat found that many of the female participants in the Dubrovka Theater attacks were the widows of former rebels who were killed by Russian soldiers. (Nivat 2005) One female participant saw her husband “dragged away by Russian troops in front of her eyes. She had neither father nor brother anymore – no reason to live. She was a loyal woman to the end.” (Nivat 2005, 415) In this model, women risk being seen as less womanly by participating in a public organization and engaging in violence as well as, face pressures to support the movement and cause of their people. (Berko and Erez 2007) As a result, women are trapped between the public and private domain, and when they enter the public sphere it must be either for reasons connected to the private sphere or at the coercion of powerful male

participants. These explanations largely ignore the fact that many male participants are also driven to terrorist organizations due to the death of loved one. Personal tragedy as a motivating factor is not unique to women, but can be applied to men and women alike.

The third aspect explains that female participation is a mode of obtaining gender equality; female participants have dual motives- the organization's and to obtain equality. (Fanon 1988; Cunningham 2003; Georges- Abeyie 1983) Literature examines the increasing presence of female participants among leftist and secular organizations. As some of the literature has argued, there have not been any terrorist organizations fighting directly for the promotion female rights and equalities therefore, females participate in already established groups as a means to promote gender equality. Fanon's examination of Algerian female participants uncovered the alternative motive of the females in trying to promote greater equality, even though they still share the same political goals as the male participants. (Fanon 1988) In Berko and Erez's study of Palestinian female terrorists, many of the women stated gender equality attainment as a reason for their participation. Berko and Erez ultimately concluded, like other scholars, that females were likely the pawns or victims of the organizations. (Ness 2005; Berko and Erez 2007)

The final aspect does not explicitly examine the motivations of participants, but makes generalizations on the background and roles of female participants compared to male participants.

Some early literature on female terrorists found women represented only a small percentage of the total number of participants in an organization, and they tended to be in supportive roles rather than in positions of leadership. (Miller and Russell 1983; Weinburg and Eubank 1987; Talbot 2001) Miller and Russell found in a study of terrorist groups operating between 1966 and 1976 that only 20 percent of the participants were females. (Miller and Russell 1983) However, in a later study by Weinburg and Eubank, nearly 66 percent of female participants had a regular role within the organization, 7 percent a leadership role and 27 percent a supporter role. (Weinburg and Eubank: 250) The literature indicates female participants tend to join organizations later in life; therefore, they tend to be older, better educated and belong to a higher socioeconomic class than male participants. (Miller and Russell 1983; Weinburg and Eubank 1987; Talbot 2001)

### **THEORY AND HYPOTHESIS:**

A majority of the literature has a unit of analysis at either the individual or organizational level. The first grouping of literature focuses on factors within the organization: group ideology or using females as a tactic. The rest of the groupings primarily examine individual motivations of the female participants. However, terrorist organizations are not operating within a vacuum. Rather, each group operates within unique cultural or societal norms and roles related to gender. There are few or no quantitative or qualitative studies that examine the influence of the society an organization operates in

to the inclusion of female participants. This gap in the literature has to the potential to shed light on how organizations and society interact as well as better knowledge of what factors facilitate female inclusion. While it is somewhat clear the possible organizational or individual motivations, there is little known about how varying social norms might impact female participation.

One hypothesis is that as females experience greater amounts of equality in a society there will be higher levels of female participation in terrorist activities. When the societal barriers that keep women in a subordinate position break down, women would engage in the same behaviors as men, which includes participating in terrorism.

H: If there is more gender equality within a state, then there will be more female participation in terrorist organizations.

This hypothesis operates on the theoretical standpoint that when men and women are afforded the same rights and opportunities within society, they will both engage in the same types of behaviors, including participation in violent political groups. Gender roles that push women into the private sphere as passive and nonviolent actors, and men into the public sphere as aggressive and violent actors are social constructs. Once these constructs deteriorate, barriers forcing men into one set of roles and women into another will dissolve. It is important to note this theoretical standpoint differs from others

who argue women utilize participation in terrorist groups as a way to obtain gender equality such as Fanon's examination of women in Algeria. Those studies primarily view participation as a vehicle for equality, while this study sees gender equality as a vehicle for participation.

From the standpoint that men and women will behave the same given the equality of opportunity is not unique. This view draws from the liberal feminist tradition. Liberal feminism views "female subordination is rooted in a set of customary and legal constraints blocking women's entrance to and success in the so-called public world. Because society has the false belief that women are by nature less intellectually and physically capable than men, it excludes women from the academy, the forum, and the marketplace" (Putnam Tong 1998, 2).

Liberal feminism, a broad field of thought, encompasses several different theorists. For the purpose of this paper, a classic and general interpretation of liberal feminism will be utilized. Pieces such as John Stuart Mill's "Subjection of Women," Mary Wollstonecraft's "Vindication of the Rights of Women" and modern feminists such as Betty Friedan will be primarily used for interpretation. (Kolmar and Bartkowski 2005; Putnam Tong 1998) Wollstonecraft argued that women were not "by nature more pleasure seeking" or overly "emotional" rather, she put forth the idea that women were not given the opportunity to develop their rational and moral self as men were. (Putnam Tong 1998: 13)

Mill argued the inclusion of women in the public sphere would benefit all of society because women, given access to the proper education, could participate and understand public matter such as business, public affairs and other “higher matters of speculation.” (Putnam Tong 1998, 83) Liberal feminism therefore, provides the theoretical basis that gender roles are fabrications and constructs of particular societies and cultures. Liberal feminism argues women enjoy political, economical and social opportunities equal to men but, it cannot be predicted if women would participate in violent activities like terrorism. The belief that women are as capable intellectually as males is different than claiming women, given equality, will engage in violence. In order to further pursue this theory, the limited number of studies about gender equality and terrorism must be explored. Additionally, this literature can be supplemented by utilizing literature on gender equality and female participation in the military.

There are a few studies done exclusively on the topic of terrorism and gender equality.

According to studies by Blee on female participation in rightist racially motivated terrorist groups in the United States during the 1920s, female participants joined the groups for many of the same reasons as male participants. Women won the right to vote in 1920 and consequently many women exercised their newly won political rights by joining violent political groups like the Ku Klux Klan. (Blee 1991, 58 and 2005) According to Blee, women would join the KKK even against the wishes of their husbands. (Blee 1991) Daisy Douglas Barr was the leader of the Women’s KKK for Indiana and seven

other states where she advocated for women's rights and political participation. (Blee 1991, 64) The literature used to recruit women to the WKKK incorporated the "same racist and nativists themes as the male KKK." (Blee 1991: 67) Men and women both were trying to "protect" the American family, attempting to keep intact their own racial, religious and ethnic "superiority." (Blee 1991:71) Once women won political rights, they were encouraged to participate in similar activities as men.

In another of Cook's study, he argued that classic Islam is "fairly negative about the role of women in jihad," but recently radical Muslim groups have tried to legitimize female participation in jihad. (Cook 2005) Cook does not directly address gender equality and terrorism, but his study does examine the link between social norms and female participation. Cook found that female participation in martyrdom operations were largest in Chechnya and Palestine, which are more "secularized" and "well educated" than other areas in the Muslim world. (Cook 2005) Female involvement in the jihad movement has been mostly limited to those nationalist Islamic resistance movements than in global radical Muslim movements. (Cook 2005, 383) Cook argued that women were not participants in movements like al-Qaeda because of the "social conservatism that prevails in Muslim societies." (Cook 2005, 387) The idea of varying gender norms impacting the role of female terrorist has somewhat emerged in the pieces by Blee and Cook.

The literature on gender equality and female terrorist participation is rather limited. The theory

can be better explored using literature about female participation in the military. Segal developed a model of women's military participation divided into three dimensions: institutional/military, social structure and cultural. (Segal 1995) While factors within the military are not useful in understanding female terrorist participation, the social structure and cultural components can shed light on whether more gender equality would result in greater female participation in violent organizations. The social structure component includes women and economic factors, the structure of the family and sex segregation within the labor force. (Segal 1995, 759) Segal argued a "more gender integrated occupational structure (would be) indicative of more gender equality in the culture, which in turn leads to greater acceptance of women in military roles." Conversely, "the greater the emphasis on ascription by gender... the more limited women's roles will be in the military." (Segal 1995, 767) Secondly, the cultural component considered social values, discourse, and construction of gender. Segal argued the more egalitarian the gender norms the more women will participate in the military. (Segal 1995, 769)

In subsequent literature, Segal's model was empirically tested using case studies. (Iskra et al. 2002; Dandeker and Segal 1996) The follow-up analysis to Segal's models recommended additional variables be added to the model, but the social structure dimension and the cultural dimension originally identified by Segal connected to female military participation. The destruction of traditional gender roles and increasing equality played a role in increasing levels of female participation in the

military. (Iskra et. al. 2002, 785) In addition to gender norms and roles, it should be noted studies also found a driving force to expand roles for females where fewer numbers of qualified men were serving. These findings were also affirmed in a second study of female military participation stemming from a variety of pressures including more egalitarian labor practices and changing public views of gender roles and norms. (Dandeker and Segal 1996)

In South Africa the legal confines that kept women in a subordinate position and prevented women from joining the ranks of the South African National Defense Force (SANDF) have been dissolving. (Heinecken 2002) “Although South African women are experiencing a sense of ‘liberation’ brought about by the removal of discriminatory legislation, they are still subject to cultural encapsulation specifically within the context of customary law.” (Heinecken 2002, 720) Heinecken argued a greater “emphasis on ascription by gender” would result in lower levels of female participation while “the more egalitarian the social values” the greater female participation. (Heinecken 2002, 720) The limiting cultural values for women in South African resulted in more limited roles for women in the SANDF. Despite no formal law, prohibiting female participation in any wing of the military cultural and societal norms about gender roles and values continued to play a role female participation. When surveyed, a large portion of the male members in the SANDF claimed it was natural for men to control women and it was suitable for a husband to use violence against his wife to

make her do what he wishes. (Heinecken 2002, 720) Cultural and social values about gender equality have limited female participation in the South African military.

In addition, the hypothesis that gender equality would increase female participation challenges some of the notions previously argued in the literature. The literature from an organizational perspective argued that terrorist groups utilize women as a tactical advantage. Due to conventional gender norms such as women being nonviolent, passive and restricted to the private sphere, female participants attract less attention. Once women are linked to an attack their participation heightens the “terror” among the public. Based on that logic organizations utilize conventional gender norms, than it would be expected high gender inequality would potentially increase female participation from an organizational perspective.

## **RESEARCH DESIGN:**

The hypothesis was tested using a multivariable logit model. The dependent variable, female terrorist participation in organizations, is dichotomous and coded using as “0” or “1” with a “0” reflecting no evidence of female participation in the organization, and “1” indicating there is evidence of female participation in the organization. A total of 26 states were included in the model, and within each state, all terrorist organizations known to be operating between 1998 and 2005 were coded. Each organization was coded for evidence of female participation in that state. For example, al-Qadea is

known to be operating in Iran as well as the United Kingdom during the time period. While there is evidence of female participation in al-Qadea in the United Kingdom there is no evidence of female participation in the same organization in Iran. The database includes a total of 457 observations with 77 percent of the organizations demonstrating no evidence of female participation, and 23 percent showing evidence of female participation. Out of the 457 observations, 105 are organizations with female participants and therefore, there is enough cases of “1” to successfully run a logit model.

The independent variable, gender equality, is considered by political, social and economic measures. The gender equality measures included are the ratio of female adult literacy to male literacy<sup>3</sup>, the average fertility rate per female of child bearing age,<sup>4</sup> the percentage of female representatives in the lowest level of parliament<sup>5</sup>, the year women attained full political rights<sup>6</sup>, and the percentage of women in the labor force.<sup>7</sup>

First, two social factors includes a measure for literacy for adults ages 15 and older, and a measure for fertility. (Sugarman and Straus 1988; Harvey et al. 1990; Di Noia 2002; Dollar and Gatti

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<sup>3</sup> Gender Inequality In Education. (2007/2008) Human Development Report. Retrieved March 25, 2008 Web site: <http://hdrstats.undp.org/indicators/286.html>

<sup>4</sup> Ibid.

<sup>5</sup> Women in Parliament for 2000. (Dec 2007) United Nations Statistics Division. Retrieved March 25, 2008 Web site: <http://unstats.un.org/unsd/demographic/products/indwm/tab6a.htm>

<sup>6</sup> Women's Political Participation. (2007/2008) Human Development Reports. Retrieved March 25, 2008 Web site: <http://hdrstats.undp.org/indicators/308.html>

<sup>7</sup> Gender Stats Database of Gender Statistics. (2002). The World Bank Group. Retrieved March 25, 2008 Web site: <http://hdrstats.undp.org/indicators/308.html>

1999) Literacy is an essential tool to remain competitive in society. Studies measuring gender equality typically include a literacy component because this factor captures the ability of women to interact in society, obtain employment as well as serves as an indication of their level of education. Female literacy is set in a ratio to the rate of male literacy in order to better capture the relative inequality of women to men. In many states, the rate of female literacy is relatively low, but so too is male literacy. Literacy is better reflected in a ratio than as a simple measure of the percentage of adult women who are literate.

The mean ratio between female literacy and male literacy is .85 for all of the observations, which indicates that, on average, states experience relative inequality between women and men in terms of literacy and education. The minimum ratio is found in the country of Chad where only 13 percent of the adult female population is literate. However, in some countries like Honduras the ratio is 1.01 indicating that the rate of female literacy is higher than the male literacy rate. Additionally, most of the observations occurred in states with a ratio of .95 indicating a significant number of states have relative equality between men and women in terms of literacy and education. A test for the expected means reveals the rate of literacy of women compared to men in organizations with female participants is .78 while the expected mean for organizations without evidence of female participation is .86. Additionally, the median ratio for the organizations without female participation is higher than the

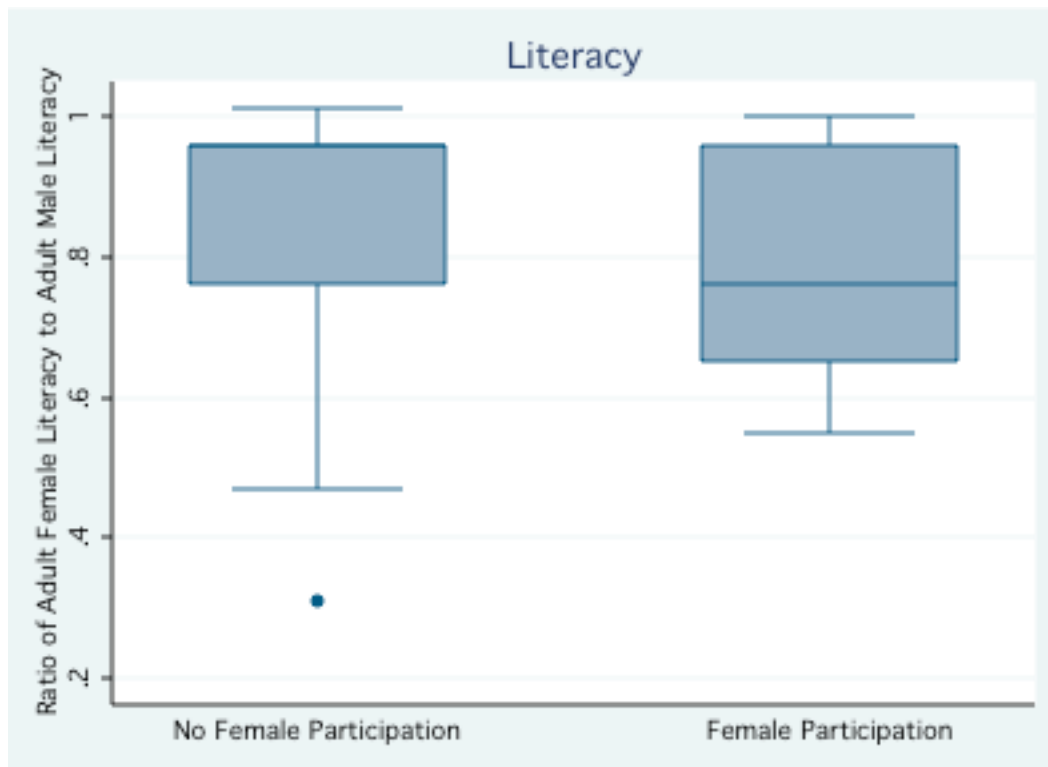
median for the organization with female participation as seen in *Graph 1.1*. The graph also indicates there is more variation in the ratios in groups with female participants. This preliminary test reveals that gender equality could have a significant effect on female terrorist participation, but in the opposite direction than the hypothesis proposed. The test expected mean indicate that instead of greater gender equality resulting in more female terrorist participation it could actually result in a lower rate of female participation. Also, a test for equal variance reveals organizations with female participants differ significantly in terms of the ratio of literacy rates between men and women.

*Table 1.1*

Women	Mean	Max	Min	Std Dev	p(50)	Mode	se(mean)
Literacy	.85	1.01	.31	.16	.95	.96	.009

t = 3.79 Probability of t = 0.0 f = 14.40 Probability of f = .0002

Graph 1.1



A measure is also included for the fertility rate or the average births per woman of childbearing age. (Sugarman and Straus 1988; Harvey et al. 1990; Di Noia 2002; Dollar and Gatti 1999) The fertility rate captures many different elements including the economic strain a woman endures, employment pressures, and potentially the limited access to contraceptives. The fertility rate is highly correlated to the rate of contraceptive use among females aged 15 to 49 therefore, as one variable increase the other decreases. The ability for women to control the number of children is a factor that ultimately effects many other aspects of gender equality. Generally, as the average births per woman increases, it can be expected that as gender equality decreases. The average births per woman for all the observations is

2.5, while a majority of the observations occurred in states with a rate of 1.3 births.

*Table 1.2*

Women	Mean	Max	Min	Std Dev	p(50)	Mode	se(mean)
Fertility	2.5	7.1	1.2	1.24	2.4	1.3	.60

Second, political measures are included by measuring the percentage of seats held by women in the lower chamber for countries with a bicameral assembly, and female suffrage. (Sugarman and Straus 1988; Harvey et al. 1990; Di Noia 2002; Dollar and Gatti 1999) Female representation in government is an essential factor in determining gender equality. With more representation we can expect that not only will women's issues be more of a priority in government, but it also indicates it is more socially acceptable for women to be in positions of power equal to men. The data reveals the average rate for seats occupied by women is 11.84 percent with most of the observations occurring in states with a rate with 11 percent of the seats held by women. This indicates women are grossly underrepresented politically in the vast majority of states. Women's political power compared to men's power is highly unequal. However, Sweden has the maximum rate with 43 percent, which indicates women in Sweden are well positioned politically compared to men.

Table 1.3

Women Parliament	Mean	Max	Min	Std Dev	p(50)	Mode	se(mean)
	11.84	43	0	8.47	11	9	.48

Political equality is also captured using a suffrage variable that reflects the year women received full political rights including the right to vote and stand for national election. Originally this measure was conceptualized to include whether states had full suffrage or not. However, nearly all of the states had some measure of suffrage. The variable was redefined to measure the year suffrage was attained, which would capture an element of the history of gender equality in that state. For example, Indonesia did not grant full political rights until 2003 while in Denmark these rights were granted in 1915. It can be expected that Denmark would have a longer history of gender equality rights, while Indonesia would not have this pattern. The average year for the observations was 1948.12, while in most states, rights were granted in 1952. Additionally, a test of expected means reveals the expected mean for the year women received the right to vote and run for national office is 1948.94 for organizations without evidence of female participation while, this figure dropped to 1945.22 for organizations with female participation. The median year was also slightly higher for organizations

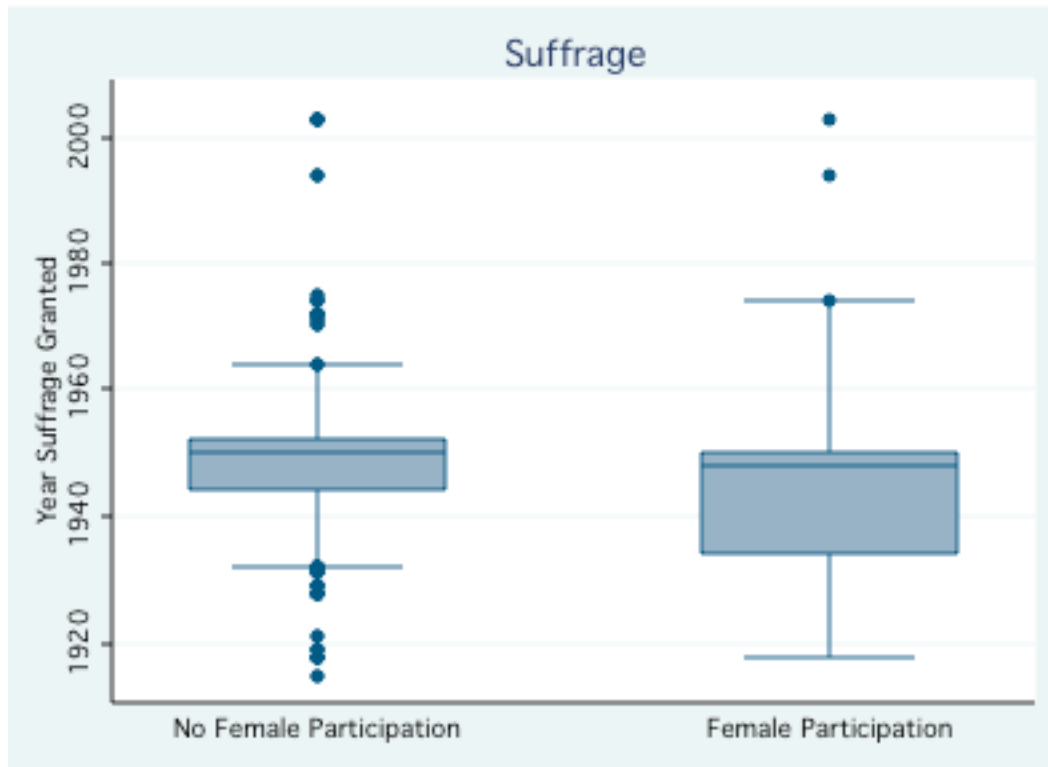
without female participants than with female participants as seen in *Graph 1.2*. Like the literacy measure, there is more variation in years when full political rights were granted in organizations with female participants. Consistent with the preliminary tests in literacy, this test reveals gender equality could be significant in reducing female terrorist participation. A test for equal variance also reveals there is difference in terms of the year full political rights were granted between organizations with female participants and organizations without female participants.

*Table 1.4*

Women	Mean	Max	Min	Std Dev	p(50)	Mode	se(mean)
Suffrage							
	1948.12	2003	1915	15.67	1949	1952	.75

t = 2.08 Probability of t = .04 f = 4.31 Probability of f = .0384

Graph 1.2



Third, the last measure captures the economic equality of women by measuring the percentage of women in the labor force. (Sugarman and Straus 1988; Harvey et al. 1990; Di Noia 2002; Dollar and Gatti 1999; Whitehouse 1992; Segal 1995) In order to have gender equality it is important for women to have economic independence and stability. Segal includes measures of women's participation in the labor force in her model examining female participation in the military. (Segal 2005) As the measure reaches 50 percent, women are equally represented in the labor force compared to men. The average rate of women in the labor force for all the observations was 36.91 with most organization operating in states have a rate of 39 percent. For many of the states where organizations are operating, the economic

equality between men and women was fairly unequal.

*Table 1.5*

Women	Mean	Max	Min	Std Dev	p(50)	Mode	se(mean)
Labor							
	36.91	48	14	7.48	39	39	.36

Additionally, in order to correctly specify the model, an ideology component was added to capture prior theory which demonstrated that leftist and secular organizations tend to have more female participants. A measure was included that captures whether or not the group was leftist and a second measure was for religious ideology. A measure for rightist ideology was also included but was dropped from the model because there were few observations. It is possible those that are “rightist” are commonly in the category of religious. Also, two measures were included for democracy and gross national product. The democracy variable measures the level of democracy along a scale of zero, being the lowest, and ten, being the highest. Democracy and GNP were significant to the model because they tend to impact the levels of the gender equality variables included. It was predicted that these measures would not be directly significant, but have an effect on the other gender equality variables that will influence whether a terrorist organization has females participation or not.

Prior to running the model, a bivariate correlation was used to determine potential multicollinearity issues. Previously, a measure capturing the rate of females in secondary education was included, but this was highly correlated to the ratio between women's literacy and men's literacy rate. These measures ultimately capture many of the same concepts. The measure for secondary education was eliminated because equality in literacy is fundamental to many of the other aspects of gender equality, and the measure was a ratio which more accurately reflects the position of women compared to men.

## **RESULTS:**

The results indicated the model is significant and the variable measuring the ratio between women's adult literacy rate and men's literacy rate is statistically significant as seen in *Table 2.1*. However, there is a location problem, which biases the standard errors. The model assumes the observations are independent of each other. But in the model, observations are based on the organizational level where each organization is connected with the gender equality data for the state in which the group operates. There are multiple organizations operating in the same state, therefore, multiple organizations share the same data and are not independent of each other. This problem was remedied by clustering the data by group or by state. This allowed for the correction of standard errors when observations are repeated. Observations are independent across groups, but not necessarily within

the groupings.

Table 2.1

	Coefficients	Standard Error
Democracy	.038	.104
GNP	-.000	.000
Literacy	-6.237	2.787*
Fertility	-.665	.384
Parliament	.017	.043
Suffrage	-.003	.014
Labor Force	-.006	.036
Leftist	.187	.499
Religious	-.408	.594

Chi2(9) = 23.93 prob > chi2 = .04 n = 183

When clustering the observations, the standard errors minimally changed in the model. (Table 2.2.) The model remained significant, and the literacy measure was also significant. In addition, while the fertility measure was not statistically significant at the point .05 threshold, it was within the arena of significance. After being clustered, the probability for fertility dropped from .083 to .07.

Table 2.2

	Coefficients	Standard Error
Democracy	.038	.109
GNP	-.000	.000
Literacy	-6.237	2.680*
Fertility	-.665	.367
Parliament	.017	.046
Suffrage	-.003	.015
Labor Force	-.006	.040
Leftist	.187	.491
Religious	-.408	.697

Chi2(9) = 63.98 prob > chi2 = 0.00 n = 183

The literacy variable presented some interesting results. The sign of the literacy variable is negative, therefore, as the ratio increases (as women gain equality to men in terms of literacy) it is less likely there will be evidence of female participation in terrorist organizations. According to the model, if all the variables were held to their mean, it is likely 22 percent of the organizations will have female participants, while 78 percent will not. If the maximum ratio for literacy is substituted (1.01), then the

predicted probabilities change significantly. Using the maximum literacy ratio where women have parity with men in terms of literacy, it is likely only 9 percent of the organizations will have female participants and 91 percent will not have evidence of female participation. This represents a 13 percent drop in the number of organizations with female participation based on moving from the mean (.85) to the maximum (1.01). If the minimum ratio is substituted (.31) it would indicate women were extremely unequal to men in terms of literacy rates, and there would be a large infusion of female participants. The predicted probability for organizations with female participation increases to 88 percent and the number of organizations without female participation drops to 11 percent. By manipulating the rates of maximum to minimum there is almost a complete inverse of the data with female participation increasing dramatically as the parity in literacy rates decreases. This finding reflects the results of the test for expected mean, which found the average ratio for organizations with female participants was lower than organizations without female participants.

While the percentage of women in the labor force is not statistically significant, according to the model, it follows the same pattern as the literacy rates. As the percent of women in the labor force increases, women's participation in terrorist organizations decreases. The maximum rate of women in the labor force was 48 percent. When all the variables are held at their mean and labor at its maximum, it was predicted that 80 percent of the organizations will not have female participation and 20 percent

will, but when labor was set at its minimum, female participation increased to 24 percent. Based on the predicted probabilities of these two variables, a pattern emerged which is contrary to the proposed hypothesis. It appears gender equality factors in a state shapes whether organizations in that state have female participation, but instead of equality increasing female presence, it decreases their presence based on the literacy and labor variables.

However, another story also emerged. The percentage of women in parliament is not significant, but it is positive, indicating as the percent of seats held by women in the lower level of a bicameral legislature increase it is more likely women will be participants in terrorist organizations. The minimum percent of seats held by women observed in the data was zero. When the other variables are held at their mean and the minimum is used for the percent of seats the predicted probabilities indicate 19 percent of the organizations will have female participants, but when this figure is substituted for the maximum (43 percent) the percent of organizations with female participants jumps to 33 percent. These results fit the hypothesis that increasing gender equality will result in female participation. Also, while the second variable capturing women's political rights, suffrage, is also not statistically significant it does follow the same pattern as the previous variable. According to the model as the year increases when full political rights, including the right to vote and run for national office, were granted it is less likely women will be participants in terrorist organizations. Therefore, as was

expected organizations with female participants operated in states with longer histories of equality in political rights for women. For example, when 1915, the minimum for year full rights were granted in the observed data, is used with the mean for the other variables it is found that 25 percent of the organization are expected to have female participants based on the model. If the maximum is used, 2003, which indicates a short period of full political rights the number drops to 19 percent for the percentage of organizations with female participants. It is interesting to note that while tests for expected means and equal variance were consistent with the model findings for literacy, these tests are not for suffrage. Outside the model suffrage was significant, but in a way that appeared to contradict the hypothesis. In the model suffrage is consistent with the hypothesis.

The fertility rate also has interesting results. It was not significant at the .05 thresholds, but in the clustered model it is significant by .10 threshold. According to the model as fertility increases or the average number of births per woman increases it is less likely there will be female participation in terrorist organizations. The maximum average of births per woman observed in the data was 7.1 births, and the minimum was 1.2 births. In terms of the predicted probabilities the maximum results in a predication that only 1 percent of the organizations will have female participation, but when substituted for the minimum the predication jumps to 43 percent. It was predicted that as the fertility rate increased gender equality was decreasing. These results would also be consistent with the hypothesis that more

gender equality would increase the female participation in terrorist organizations.

Additionally, group ideology did not prove to be significant. However, the predicated in the literature were confirmed. Based on the model organizations with religious ideologies were less likely to have female participants and leftist organizations more likely. When the other variables were held at their mean and a group has a leftist ideology as opposed to religious ideology the predicated probability for the percentage of organizations with female participants is 25 percent. This percentage drops to 16 percent when substituted for a religious ideology. Also, measures for democracy and gross national product were included because they shaped the other gender equality variables included. According to the Joint-Mortality F-test democracy, while not significant in the model, is significant in shaping some of the other variables. For example, democracy is statistically significant in shaping the ratio of female to male literacy rates. Also democracy is significant in shaping a combination of variables including literacy, suffrage, and fertility. As was predicted democracy was not significant in the model, but it does serve in shaping and impacting the levels of other equality measures. Also, GNP was not significant in the model but as was predict it was significant in shaping the literacy ratio between women and men.

In terms of goodness-of-fit the model is fairly accurate. The model predicts, using the mean for all the independent variables, that 78 percent of organizations will have no female participation and 22

percent will have female participation. The model predicts what is observed in the data where 77

percent of the organizations had no evidence of female participation, and 23 percent did have evidence of female participation. Therefore, the model is accurate in correctly predicting what is observed in the data. However, when a variance inflation factor is run there is a potential multicollinearity problem.

While a bivariate correlation matrix indicated all of the independent variables were at most only moderately related to each other the variance inflation factor indicates there are problems with some of the equality measurements especially suffrage which has a score over five. A potential solution for the problem would be to remove suffrage from the model, try to make a ratio using suffrage and a variable it is highly correlated with, or use another variable that captures the same idea but uses a measure that is not related to the other variables. When the suffrage variable is removed the multicollinearity problem becomes less pronounced and variance inflation factor drops. Additionally, the results for the other variables remain the same in the logit model. The model continues to be significant, and literacy also remains significant.

#### **ANALYSIS and CONCLUSION:**

Two aspects emerge from the relationship between gender equality and female participation in terrorism. Literacy is the only statistically significant variable, so as the ratio between female and male literacy increases, female participation in terrorist groups is likely to decrease. Contrary to the

hypothesis, results show gender inequality is more likely to increase female terrorist participation. This result is also supported by the variable measuring women's presence in the labor force. As the percentage of women in the labor force increases, it is less likely women will be involved in terrorist organizations. These results are somewhat consistent with the literature on the circumstances under which men or women would become involved in terrorism. With fewer rights both men and women utilize terrorism as a tool. Also, the organizational perspective hypothesizes that terrorists groups exploit stereotypical gender norms for tactical advantage. Therefore, if conditions are unequal it is possibly more attractive to terrorist organizations.

While the remaining variables are not statically significant, however, it important to understand how they shape the other variables. The measures for political equality indicate that as gender equality increases it is more likely there will be female participation. This mirrors the studies of women's involvement in the white supremacy movement KKK after women won the right to vote in the 1920s. The fertility measure also conforms to this theory with more average births per woman (more unequal) making it less likely there is evidence of female participation.

The issue at the forefront is how to explain these two sets of seemingly opposing results using the same theory. One explanation may be that even with established political rights, other factors such poor education and lack of economic resources may prevent women from entering the political arena.

Equality in education and economic independence act as a gatekeeper that either aids females in exercising political rights as women gain parity with men. Higher levels of equality in literacy and labor would encourage women to utilize their political rights as an alternative to terrorist participation. Even as political rights increase, women may not be able utilize these rights because of social and economic barriers. The essential factor then is not political rights, but social and economic variables such as literacy.

A second explanation, from the literature, is that women may be using terrorism as a vehicle to attain gender equality. For example, Fanon's study of Algerian female participants demonstrated that women joined organizations with the ulterior motive of gaining greater equality with men (Fanon 1988). As the literature showed, there are not groups which exclusively promote women's rights, but women make use of existing groups to promote gender equality. As political equality increases women use this as leverage to join terrorist organizations to promote their equality in other facets of society such as economics and education. This would be consistent with findings that gender equality in other measures make it less likely there will be female participation.

Ultimately, the measure of literacy is the only statistically significant variable in the current model. At least in terms of literacy, more gender equality makes it less likely organizations will have female participants, which contradicts the hypothesis. This finding has some basis in prior literature

that argued organizations will take advantage of gender inequality for group gain, and it is logical that women who cannot enjoy parity with men may seek alternative routes like terrorism to participate in the political arena. However, the measure for fertility is not statistically significant by the traditional threshold, but it is significant by a .1 threshold. Increases in average number of births make it less likely women will be involved in terrorist activity, which somewhat supports the proposed hypothesis. It can certainly be concluded that the actual influence of gender equality is not as simple as the hypothesis or prior literature proposed. The results demonstrate the relationship between female participation and the different factors of gender equality are working together with equality in some measures pushing women toward terrorism participation, and equality in other measures pushing women away from terrorist participation.

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