

Understanding fear of crime in women and restrictive social space: A perspective from Assam

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Abstract

Fear of crime is one of the most endemic emotional conditions shaping women's everyday lives and mobility. While Assam's crime statistics, as recorded by the NCRB, provide a holistic view of the majority of crimes against women, they offer only a fractional view of women's vulnerability and the emotional conditioning produced by fear. This fear leads to deeper restrictions, limiting women's spatial presence and reinforcing gendered social norms. Drawing on data from 250 women through focus group discussions (FGDs) and interviews, this study deploys a qualitative-dominant mixed-methods approach, specifically using thematic analysis to explore experiences of harassment, embodied fear, and safety mechanisms. Grounded in feminist and emotional geographical intersectionality, the study illuminates how fear is shaped by gendered power relations, affective atmospheres, and social surveillance. Findings reveal six major themes: (1) fear of crime as a fear of men; (2) temporal geographies and a virtual curfew; (3) embodied affective atmospheres; (4) mental dimensions of unsafe spaces; (5) defensive strategies; and (6) intersectional variations in fear. This paper asserts that fear is an integral part of patriarchal spatial governance, limiting women's autonomy and producing gendered spaces in urban and rural Assam.

Keywords: *Crime against women; Assam; spatial anxiety and fear; spatial exclusion.*

Introduction

Women's fear of various crimes is a perpetual emotional burden borne across different generations and spaces. Rather than the actual occurrence of crime, it is the mental cognition of women—shaped by social, cultural, and structural factors—that makes them more fearful in their daily lives (Stanko, 1993; Pain, 1997). This cognition of harassment, experiences in public transport, and gendered social norms influence women's mobility worldwide. Furthermore, physical vulnerability makes women a disproportionately high percentage of victims, which induces further fear (Painter, 1992;

Koskela, 1999). Even when not direct victims, women internalize a “geography of fear” involving complex emotions and cognitions that govern their routes, timings, behaviour, clothing choices, and interactions (Valentine, 1989; Pain, 1997). Such pervasive fear is learned through communal cues, producing “affective atmospheres” of insecurity arising from low lighting, isolation, the presence of men, or spatial disorder (Anderson, 2009). These constraints compel women to observe an unofficial code of “appropriate behaviour” (Sutton, et.al., 2011).

The whole of north eastern states known for its rich cultural heritage and lineage to matrilineal society is often perceived as a gender friendly area in the country. But even a cursory glance at the newspapers and official records often contradicts this notion. Along with the narratives from victims of incidental crimes like inappropriate behavior in public spaces, experiences of harassment in male dominated spaces (transport and market), public consumption of alcohol, and judgmental societal norms—create a sense of continual anxiety and fear (Stanko, 1993).

The cognition of fear may not constitute women's objective experience but is often subjective, engendered by societal warnings, news reports and narratives within own circles greatly influencing gendered behavior among them. This subjective behaviour is often reflected in scholarly writings which assert that public spaces are often male dominated and women's use and access is largely mediated (Massey, 1994; McDowell, 1999; Phadke et. al., 2011). Though subjective, this mediation exercises powerful influence on mobility of women and acts as a constraint for the use of public spaces by women compared to men (Hanson, 2010).

In India, studies addressing the fear of crime among women are many; but are scanty in the northeastern part of the country. This paper fills this research gap focusing upon fear as an intertwined phenomenon, produced not merely by occurrence of the crime. Statistical analysis of crime is important in providing macro understanding of the crimes committed against women, but is often unable to give a holistic picture of emotions, reactions and bodily changes and mediations that are vital to feminist scholarship. Drawing implications from Valentine (1989), Pain (1997), Phadke et al. (2011), Koskela (1999), Bondi (2005),

Anderson (2009) and others, this paper illuminates the impact of fear of crime on women and how it is constructed through social and cultural learning, embodied memory, and affective atmospheres, and ultimately attempts to structure an idea about constrained and restricted lives of women as a result of it; impeding the very right of using public spaces freely.

Objectives

The specific objectives of the paper are:

- a) To investigate into the phenomenon of fear of crime in women in different spaces.
- b) To get an insight into the social and cultural processes that instigates and perpetuates fear that leads to a variety of behavioural responses in women.
- c) To suggest policy recommendation to make public spaces an equitable gender access area.

Methodology

This study used a primary data structure with mixed-method approach to investigate women's narrative experiences of fear of crime, while using descriptive statistics for setting the context. The paper explores the dimension of fear by taking a sample of 250 women, from varied age groups ranging from 18 to 60 years of age and inclusive of diverse ethno-linguistic groups such as Assamese, Bengali, Bodo, Rabha, Garo, and Mishing communities. The participants belonged to women from diverse occupational and social backgrounds too including students, researchers, homemakers, privately employed workers, government servants, domestic helps, NGO workers, and vendors navigating public spaces on a frequent basis. Taking into consideration the sensitivity of the study both

purposive and snowball sampling techniques were employed to gather relevant information in specific locations. Despite the inclusiveness of both rural and urban population, narratives from urban areas remained prominent in giving dimensions to the study due their better accessibility, frequency of interaction of public spaces and more accountability of harassment faced in day-to-day navigation, public life dealings, workspace etc.; while rural women's fear was more often shaped by isolation and limited mobility.

Primary data was collected with the help of a structured questionnaire among 250 respondents, along with twenty-four in-depth interviews as well as two focus group discussions (FGDs), one in Guwahati and another in North Lakhimpur. The interviews and focus group discussion aimed at gathering women's insights on experiences of harassment encountered, resultant emotional and bodily responses, spatial and temporal mobility change pattern as a result of fear of harassment, and role of gender norms and hegemonic societal structure of (victim) female-shaming that perpetuates the anxiety of harassment. Both Assamese and English language were used in the interviews for ease of respondents and under strict adherence to ethical considerations while collecting and transcribing the data. Confidentiality was maintained at all levels. Data was analyzed using Braun and Clarke's (2006) six-phase thematic analysis framework with QD Miner software to derive semantic and latent codes. Using the software, both semantic and latent codes were derived from the data which gave the much-needed dimensions to the study in underpinning the experiences as well as illuminating social realities of everyday lives.

Thematic analysis (Braun & Clarke, 2006)

The gathered data from respondents were analysed using Braun and Clarke's (2006) six-phase thematic analysis framework to have an idea of semantic codes and also to highlight the latent underlying meaning of the codes. From the beginning of the analysis after transcription, the data was searched for repeated familiar words or emotions, taking into consideration observation notes, recurrent patterns and phrases, reflective notes etc. Series of codes were generated to form six broader themes using the QD Miner software. Initial coding at both the semantic and latent levels generated certain groups of emotions, patterns relating to harassment, notion of unsafe spaces, insecurity relating to temporal context, bodily and emotional reactions, anxieties, survival and defensive strategies and intersectional variations. These codes were repeatedly cross verified to reach the six collective themes that are organized according to narrative analysis and respondent's insights (Table 1).

Result and discussion

Theme 1: Fear of women is fear of men

Women are generally not vocal about private fear but be it is any form of victimization in their homes leaves spatial anxiety in them that makes them more fearful in public spaces (Stanko, 1993). Public places are often viewed as unpredictable and uncontrollable; thus, fear gravitates toward these spaces. Though variety of acts take place against women in public spaces such as stalking, obscene phone call, eve teasing etc. women primarily associate fearful crime with rape and sexual harassment. So, it can rightly be said that "fear of crime is fear of rape" (Stanko, 1993; Madriz, 1997). More than darkness and infrastructure, women constantly pinpointed fear of women as fear of men as majority of the crime against women is committed

Table 1: Themes and codes

Theme	Semantic codes	Latent codes
1. Fear of women is fear of men	“Men stare at me,” “Men follow me”, “Men pass lewd comments”, “Men try to touch me inappropriately during rush hours in buses”, “my drunk office bearer makes me uncomfortable even in a group of girls”	Spaces become male territoriality, respectability norms, gendered control
2. Temporal geographies and fear	“I avoid certain streets after 6 pm,” “Rushing home before dark”, “try to avoid streets with poor lighting and take longer routes”	Anticipation of fear due to time, emotional geographies
3. Affective atmospheres & embodied fear	“Heart races,” “Goosebumps,” “I clutch phone” “speedy walking”	Spatial anxiety, affective environment becomes important element of fear
4. Mental cognition of spaces and spatial segregation	“Empty roads,” “Bus stands,” “Public toilets”, “avoid some areas during noon and night where there is lesser people outside”,	Effective mapping of spaces, mental cognition, segregation of unsafe spaces, restrictive behavioral mobility
5. Defensive strategies & everyday navigations of code of conduct	“Carry keys for defense,” “Walk with companions”, “pretend to talk over phones”, “always call friends or relative to accompany after 10 pm”, “I prefer to take cabs even if more expensive, when I wear short dresses”	Anticipatory self protection, anxiety
6. Intersectional variations in fear	“Inappropriate touches and glances in public transport faced by young college girls,” “Old women fear theft”	Intersectionality, fear shaped by age, class

by men and often by their acquaintances (Madriz, 1997). These instances produce intense emotional and spatial anxiety even in crowded areas. These cognitions are not mere assumptions but are as a result of lived experiences of respondents which are very well illuminated in their narratives which from the perspectives of feminist geography resonates fear as an outcome of male territory and gendered control over spaces.

A respondent in her 20s from Guwahati said that she avoids the Birubari area after being stalked in broad daylight. The FGD revealed that women feared using of public transport especially in rush hour and night due to pinching, flashing, and inappropriate

touching, mostly attributing these acts to middle-aged men.

Theme 2: Temporal geographies and fear

Use of public space is never a luxury or leisure for women who use public space for a purpose. While men can use public spaces for socialization, loitering or even a right to relaxation, presence of women in such spaces without a clear or visible objective such as shopping or commuting is deemed as ‘purposeless’ and hence socially illegitimate (Paul, 2011). As a result public spaces automatically transform into male territories because women are expected to minimize

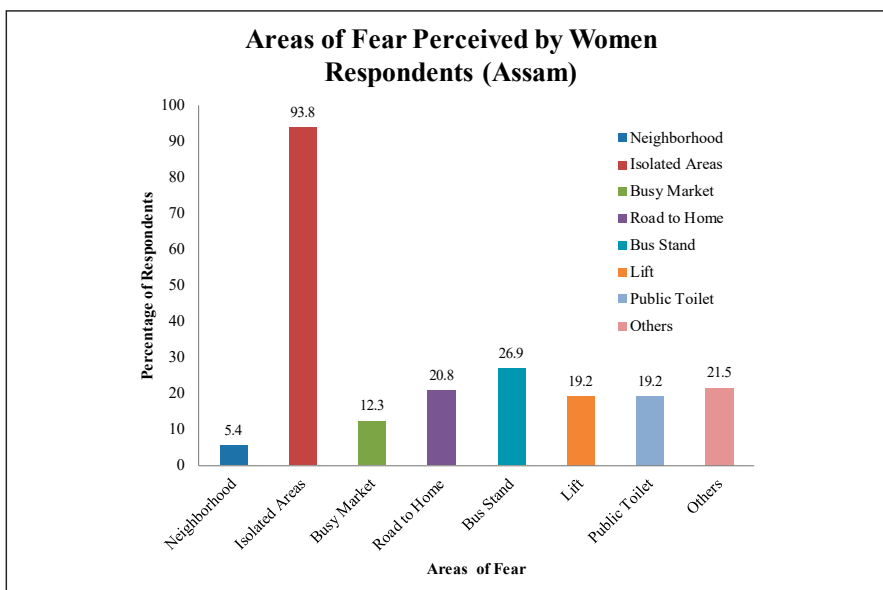


Fig. 1: Insecure spaces identified by women

Source: Primary survey, 2024

their time in these transitional zones creating a socially constructed and legitimized spaces that delineates streets for men and homes for women. The former remains a space for both temporal and spatial repercussion of fear. Acting as a threshold, dim light, dark areas reinforce the notion of fear and anxiety in women.

Respondents described imposing self-imposed curfews, anxiety of reaching home early from work or places of study, missing late evening classes etc. Fear not only makes women adjust temporal conditions but has deep emotional and bodily responses governed by social warnings, past experiences which shapes mobility patterns creating affective shifts in spatial relations of even known places compelling women to regulate their movements towards exclusion from public places during night-time hours.

In the FGD conducted in North Lakhimpur a woman narrated this fear

stating that she had to travel a much longer distance to reach her college from home, and avoided late evening classes as she was not conformable in a sharing auto after dusk. In Guwahati city, most of them avoided streets which did not have street lights, felt uneasy even in vehicle to pass over Kahilipara hill connecting road to Ganeshguri during night though none of them personally experienced anything but heard stories from their friends of drunken men and drug addict in the intervening stretch. (Interview 8, Guwahati).

Theme 3: Affective atmospheres and embodied fear

Fear as described by respondents is firstly felt in their bodies and then radiated into their mind as a sensory and emotional response to particular environments rather than as a purely cognitive assessment of risk. Participants in both the FGDs narrated that as soon as they moved into spaces that are perceived to be

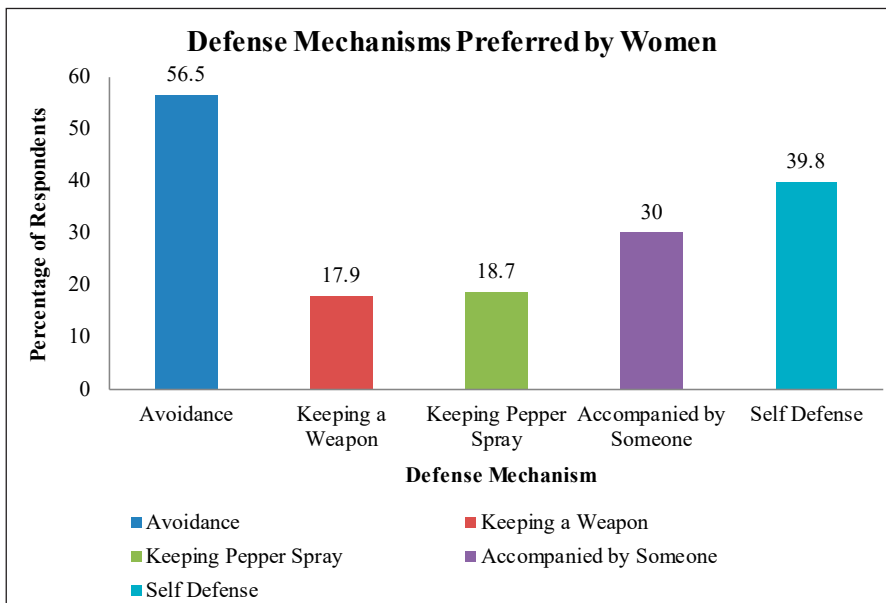


Fig. 2: Defense mechanisms used by women

Source: Primary survey, 2024

unsafe, they experienced racing heartbeats, rapid breathing, constantly looking behind as if someone is following them, and they accelerated their pace of walking to bypass the space as quickly as possible. These emotional responses often triggers from very small, ordinary environmental cues such as silence, deserted look, dim light, smell of cigarettes etc. These embodied reaction as described by respondents (Interview 7, 13, 19) illustrates the role of affective atmosphere as described in theories of (Andreson, 2009) where fear is embedded in the sense of particular spaces. This compels them to reinforce hypervigilance and thus shaping how space is navigated, remembered, and avoided.

Theme 4: Mental cognition of spaces and spatial segregations

It is still in the realm of thought that individual behaviour is a matter of choice or preference (Koskela, 1999); but these assumptions

fall short of present day reality. The social reality adheres that individual movement is seldom a matter of choice, rather is a matter of social manifestations and experience of threat, and is a mere coping strategy of daily lives (Valentine, 1989; Koskela, 1999) and this treat leads to creation of mental maps, categorization of the entire region into safe and unsafe zones (Koskela, 1999)(Fig. 1). This mental maps forces women to adhere from entering into certain spaces thereby having lesser control over public and personal space than men (Stanko 1993). These fear induced mental cognitive ideas are shaped by earlier experiences, shared precautions, and affective environment guiding the mental cognition in decision making. This mechanism is often referred as “spatial timidity” whereby fear is institutionalized in producing a gendered notion of exclusion even in the absence of direct threat (Koskela, 1999).

Theme 5: Defensive strategies and everyday navigation of code of conduct

Fear of public spaces forces women to implement diverse strategies to safeguard themselves, out of which avoidance and limiting their use becomes prominent (Koskella, 1999). Hence it is through the actions of women that public space indirectly becomes male territory and having greater rights than women, from where women are excluded by harassment and fear of violence (Koskela, 1999).

The perception of fear though not precisely casual mechanism, however, varies with age, gender, sex, level of education etc (Baker et.al., 1983). Socio-economic status and demographic characteristics relating to social vulnerability also has strong connection to fear (Carcach et.al., 1995). Though fear of crime is anticipated in women of all age groups but those with higher class, income and education are far more competent enough to circumvent its effects on their personal front (Pain, 1997; Valentine, 1989; Paul, 2011; Scott, 2003). This fear makes them vigilant enough to prepare and adhere to variety of safety and defense mechanism which subsequently gets normalized in their everyday lives and structures (Fig. 2). This mechanism creates a toll on women as they carry on additional burden and load in their cognition for remaining safe (Butcher, 2019).

In Guwahati (Interview 12), a 27-year working female narrated as how without knowing it became a regular habit of bringing her bag towards front side of the body as soon as she boarded a public transport. This shows that fear forms embedded routine knowingly or unknowingly.

FGD in both the locations also reflected women's unconscious state of vigilance of keeping objects like Hanuman chalisa, pepper spray, deo, safety pins in their bag to

avert with any kind of harassment. They often change routes and travel times in order to avoid vandalism. The most preferred defense mechanism as reported by the respondents is avoidance (56.5%), followed by self-defense training (39.8%) and being accompanied by someone (30.0%).

Theme 6: Intersectional variations in fear

Women's fear of crime was not uniform but varied significantly across intersecting social identities, producing layered and uneven experiences of vulnerability. Fear can be both formless (in mind about absolute things) and something existent (violence recognized under law). While formless fear in terms of sexual harassment is having clutches on younger women, existent fear in terms of feared theft and physical injury has clutches on older women (Carcach *et al* , 2018). Fear of crime can be seen as evenly present across all generation, in spite of the fact that younger women should be having more anxiety due to their higher propensity of confrontation with the outside world. Fear is even found ubiquitously across different temporal and spatial dimensions with varied perspectives. The field study clearly reveals a rural urban contrast in fear. Urban fear is often concentrated in specific hours, whereas rural women face higher anxiety due to isolation and poor transport networks. While fear in urban women is concentrated only in a few spaces and mostly in odd hours, rural women disclosed a higher level of anxiety with poor transport network and lack of immediate help in terms of necessity. Tribal women who belonged to close-knit community structure are many a times anxious of community surveillance and moral policing in case of any untoward instances. Society has a labeling tendency towards women in case of even crimes committed against them (FGD, Rabha woman; Interviews, 19, 36, 62).

Fear reinforces women's spatial vulnerability, and encompasses the intersection of class, caste, ethnicity and occupation and impacts all aspects of women's lives. This intersection also got reflected in the narrations of respondents like "I take the long route because I feel safer" (Interview, 6). "I don't wear the clothes I wear in Guwahati during my college when I go back to my hometown Goalpara during vacations" (Interview, 9, student, 21 Years).

Fear in women is not created in vacuum, but is operationalized in the affective, cognitive and behavioral domain of the mind of individual. Fear operates as a pervasive form of social, emotional, and spatial governance, shaping women's everyday lives in profound and multidimensional ways. It is through these aspects that mental maps are created by women extracting insights from past experiences which are then elaborated by images gained from hearing the frightening experiences and advice from other and media reports. Men and women may have different mental maps of same areas, which is essentially based on socio-cultural norms and notion of social legitimacy (Paul, 2011; Stanko, 1993; Valentine, 1989). These mental maps differ from women to women and often modifies with epoch (Valentine, 1989). Gaining insight from it, women restrict activities and in a covert way teaches what crime to fear and when to be afraid, what is dangerous and what is safe? (Madriz, 1997; Paul, 2011). This perceived mindset of safety, along with preconceived notion of criminals' structure recreates place-specific vulnerability of fear in women (Madriz, 1997). Furthermore, it is argued that as women are increasingly encouraged to adopt defensive mechanisms to avoid victimization, there is a corresponding increase in the fear mechanisms that govern their daily lives. Butcher (2019), in discussing the concept of

'safety labour' highlights a similar scenario: when women are made hyper-conscious of their attire or mobility, it often leads to a decrease in self-confidence and reinforces the anticipatory fear of attack (Gilchrist *et al.*, 1998; Paul, 2011)

Fear of crime is ubiquitous among all sections of the society. However, individual experiences are shaped by intersection of age, class, locality, occupation, and ethnicity. In urban areas late night commutes make young working women anxious while in rural areas isolation and lack of communication refrain women from accessing public areas alone after dusk. Moral policing and heightened scrutiny of women's character even if crime is committed against them makes women hyper vigilant. Younger age group of women reported anxiety of sexualized harm, while elderly women feared reported of theft and bodily harm. These narratives underscore the layered and socially constructed nature of fear often based on structural inequalities and patriarchal social control over women's mobility.

Fear in women can be as a result of prior, past experience or social and neighborhood level correlates, social and physical environment, community cohesion (Jackson, 2005) increased delinquency, incivilities and disorder (Roberts and Indermaur, 1995) vandalism, public drinking, dilapidated ethical values (Meithe, 1995; Jackson, 2005) apprehension about strangers, lack of confidence in police, risk perception (Carcach, 1995) and prevailing anecdote that impact fear (Meithe, 1995). This impact of fear can be very well expressed from the perspective of emotional geography which gives meaning to a space through emotions and created through a variety of environment cues and causes generating affective atmosphere that render familiar areas threatening (Anderson, 2009)

Fear of crime and harassment are acting like blocking boulders in the lives of

women (Roberts & Indermaur, 1995) and convenience, intimidating their self-identity (Pain, 1997); their use of public space shrinks to the level of ‘virtual curfew’ (Pain, 1997) in the night, and is used merely as a means of mediating space between home and work (Madriz, 2017; Chataway & Hart, 2018; Valentine & Valentine, 2016).

Fear in a sense can be both functional and dysfunctional in relation to its grip on one’s life; it is functional when it protects one’s exposure to risky situations, but when it permanently impacts all aspects of social life it becomes dysfunctional (Meithe, 1995). The most striking effects of fear can be enumerated to the variety of behavioral responses (Meithe, 1995; Hilinski, 2010; Scott, 2003; Valentine, 1989) operating in subconscious mind (Pain, 1997) leading to withdrawal from public life (Paul, 2011).

The findings of the study are thus not only a mere illumination of the phenomenon of fear but emphasize its reorganization as an embodied and spatially mediated experience which profoundly hampers women’s freedom, autonomy in public spaces and fosters a norm of the gendered society.

Conclusion

Fear is crippling phenomenon often engulfing the entire life of a women and squeezing away one’s very essence of mobility. Furthermore, it also illustrated that fear among women is not a result of any one incident or crime statistics, but is deeply embedded in the socio-emotional cognition shaped by gender norms, intersectional identities, vulnerabilities and atmosphere of public areas. Additionally, the study also finds out that fear in women in public spaces is a substantial proportion fear of men from whom they regularly face victimization and contrary to popular belief of delinquency it is perhaps the middle-aged group from whom majority of the dimensions

of fear is directed. These spatial, temporal dimensions create a layered cognition of women’s fear.

In order to eliminate and reduce this spatial anxiety and fear a multi level policy making is necessary considering all the stakeholders of the society. Both from the community and administrative front-based efforts and intervention are necessary to mitigate this fear of crime in women and reassure a safe space for all, where women are free of any spatial restriction and exclusion, and they can reclaim public spaces without fear.

To reduce this spatial anxiety, multi-level policy interventions are necessary from both administrative and community fronts. While this study provides a holistic picture, its findings—particularly regarding rural representation—cannot be generalized to all regions. Future research should utilize GIS-based mapping to provide visual interpretations of safe and unsafe territories. Along with comparative analysis across other northeastern states and inclusion of LGBTQ community, disabled and marginalized group can add more dimension in further dimension to the present study which limits itself to thematic analysis.

Competing interest

The corresponding author declares that they have no conflict of interest.

References

- Anderson, B. (2009). Affective atmospheres. *Emotion, Space and Society*, 2(2), 77-81.
- Baker, J., Nienstedt, B. C., Everett, R. S., & McCleary, R. (1983). The fear of crime in the United States: A multivariate analysis. *Social Forces*, 62(1), 134-147.
- Bondi, L. (2005). Making connections and thinking through emotions. *Transactions of the Institute of British Geographers*, 30(4), 433-448.

- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77-101.
- Butcher, M. (2019). Urban fears and everyday life. Routledge.
- Carcach, C., Frampton, K., Thomas, K., & Cranich, S. (2018). Explaining fear of crime in Australia. Australian Institute of Criminology.
- Carcach, C., Hsing, A., & Meagher, D. (1995). Perceptions of crime and fear. Australian Institute of Criminology.
- Chataway, M. L., & Hart, T. C. (2018). Fear of crime and the role of neighborhood. *Journal of Criminal Justice*, 55, 25-36.
- Day, K. (2001). Constructing masculinity and women's fear in public space. *Gender, Place & Culture*, 8(2), 109-127.
- Dosekun, S. (2007). Fear, feminism and women's urban experiences. *Feminist Review*, 87(1), 105-122.
- Gilchrist, E., Bannister, J., Ditton, J., & Farrall, S. (1998). Women and the "fear of crime": Challenging the accepted stereotype. *British Journal of Criminology*, 38(2), 283-298.
- Hanson, S. (2010). Gender and mobility: New approaches for informing sustainability. *Geographical Review*, 100(1), 5-23.
- Hilinski, C. M. (2010). Fear of crime among women: A structural equation model. *Journal of Criminal Justice*, 38(3), 262-269.
- Jackson, J. (2005). Experience and expression: Social and cultural significance in the fear of crime. *British Journal of Criminology*, 45(6), 946-966.
- Koskela, H. (1999). Fear, control, and space. *Geografiska Annaler: Series B, Human Geography*, 81(2), 111-124.
- Madriz, E. (1997). Nothing bad happens to good girls: Fear of crime in women's lives. University of California Press.
- Massey, D. (1994). Space, place, and gender. University of Minnesota Press.
- McDowell, L. (1999). Gender, identity and place. Polity Press.
- Miethe, T. D. (1995). Fear and withdrawal from urban life. *The Annals of the American Academy of Political and Social Science*, 539, 14-27.
- Pain, R. (1997). Social geographies of women's fear of crime. *Transactions of the Institute of British Geographers*, 22(2), 231-244.
- Painter, K. (1992). Women's fear of crime, fear of crime and public policy. *British Journal of Criminology*, 32(3), 365-375.
- Paul, S. (2011). Women's fear of crime and use of public space. *Indian Journal of Gender Studies*, 18(2), 211-229.
- Phadke, S., Khan, S., & Ranade, S. (2011). Why loiter? Women and risk on Mumbai streets. Penguin Books.
- Ranade, S. (2007). Mapping everyday gender-space relations in Mumbai. *Economic and Political Weekly*, 42(17), 1519-1526.
- Roberts, J. V., & Indermaur, D. (1995). Predicting fear of crime. *Australian and New Zealand Journal of Criminology*, 28(2), 111-125.
- Scott, J. (2003). Women and fear of crime. *Criminal Justice Matters*, 52(1), 16-17.
- Stanko, E. A. (1993). Women, crime, and fear. *The Annals of the American Academy of Political and Social Science*, 515(1), 35-48.
- Sutton, R., Robinson, B., & Farrall, S. (2011). Gender, fear of crime and risk perception. *British Journal of Sociology*, 62(4), 743-762.
- Valentine, G. (1989). The geography of women's fear. *Area*, 21(4), 385-390.
- Valentine, G., & Valentine, M. (2016). Embodied fear and everyday life. *Social & Cultural Geography*, 17(1), 1-20.

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