

Using Marginalization Theory to Examine Pedestrian Injury

A Case Study

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Hall, Stevens, and Meleis' critical feminist theory of marginalization provides a useful lens through which to examine both the role of the automobile in Western society and the related phenomenon of automobile-pedestrian injury. This article draws on a specific case of automobile-pedestrian fatality in San Francisco's Mission District to show how the marginalization of neighborhoods, groups, and individuals occurs in an autocentric environment. Nurses can use concepts of marginalization to inform and dialogue with communities about healthier, safer transportation options and ways to achieve them. **Key words:** accidents, cultural diversity, environment, public policy, traffic, vulnerable populations, walking

Automobiles usurp human space, poison the air; and, frequently, assassinate intruders that invade their conquered territory. What distinguishes the violence that kills by motor from that which kills by blade or bullet?^{1(p237)}

ON FEBRUARY 11, 2003, 4-year-old Elizabeth Dominguez, a preschool student at Buena Vista School in San Francisco's Mission District, was struck and killed by a truck while she stood on the sidewalk at the corner of 24th Street and Potrero Avenue waiting for a bus with her mother and baby brother.² The survivors went to San Francisco General Hospital across the street where they were treated and released. On September 11, the San Francisco District Attorney filed misdemeanor vehicular manslaughter charges against the driver of the truck. Elizabeth Dominguez's family charged that the City should have done something to improve safety at the intersection.³

The community responded to Elizabeth Dominguez's death with grief and a renewed awareness of dangers faced by pedestrians. Policymakers, law enforcement personnel, healthcare professionals, and traffic engineers joined the safe streets marches that followed her death. Yet Elizabeth's death was only one among many.

According to the World Health Organization, 1.2 million people were killed by traffic in 2002.⁴ If current trends continue, disability by automobile will rise from 9th to 3rd place in worldwide disease ranking by 2020.⁵ Each year, approximately 50,000 people die in the United States as a result of motor vehicle traffic as either passengers or pedestrians. This roughly corresponds to the number of US casualties during the entire Vietnam War.⁶ Nonetheless, pedestrian death by automobile is generally considered a *personal* tragedy rather than evidence of a public health problem. This article uses marginalization theory to analyze the case of Elizabeth Dominguez and the larger issue of automobile-caused pedestrian injury.

THE PROBLEM OF PEDESTRIAN INJURY

Pedestrian injury and death have become pressing health policy concerns, as the needs of those who walk have largely been

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subordinated to the demands of automobile use. One hundred years after the first pedestrian fatality attributable to the automobile, activists are beginning to question the health, environmental, and social consequences of our society's automobile-focused policies. In San Francisco, Calif., a nongovernmental organization has formed to represent the interests of those who walk in addition to groups supporting the use of public space for bicycling.^{7,8} There is increasing awareness of the health effects of an automobile-centered too sedentary society. In addition, automobiles cause a significant portion of air pollution.⁹ Health policy discourse related to the impact of the automobile on pedestrians, however, has been relatively minimal.¹⁰

PEDESTRIAN INJURY IN SAN FRANCISCO

San Francisco is particularly impacted by the epidemic of pedestrian injury. While pedestrians comprise 15% of all traffic deaths nationwide, in San Francisco the burden is 50%.¹¹ Approximately 1000 pedestrian injuries were recorded virtually every year from 1983 to 1996.¹² In the years 1998–2002, 141 pedestrians were killed by motor vehicles on the streets of San Francisco. San Francisco has California's highest rate of death and injury to pedestrians at 118.7 per 100,000.¹³ Motor vehicle traffic ranked among the top 3 causes of death for San Francisco residents aged 1 to 24 years.¹⁴

The Mission District is one of the most densely populated areas of San Francisco.¹⁵ A great deal of the population speaks English as a second language and nearly 82% of the households are in rental housing.¹⁶ This area is also home to some of the poorest residents of San Francisco as measured in terms of per capita income.¹⁵

The neighborhood is bounded by major automobile thoroughfares. On the Mission's eastern boundary with Potrero Hill is the formidable barrier (and source of air pollution), Interstate Highway 101. The southern

boundary of the neighborhood is Cesar Chavez Street, which carries 6 lanes of traffic heading to and from Highway 101.

In the Southeast Mission, where Elizabeth died, an area of only 2.3×0.3 miles, there were 11 fatal automobile versus pedestrian injuries during 1990–2001.¹⁷ There were also 27 severe injuries and 305 other injuries (all to pedestrians) during those 11 years. In addition, when compared with the rest of San Francisco, the injuries in the Southeast Mission were more likely to result in death.¹⁸ A greater percentage of the automobile-injured are also children. Twenty-six percent of the automobile-injured in this area were infants to 17 years old, while they comprised only 14.8% of the automobile-injured for all of San Francisco.¹⁷

The Southeast Mission has 7 elementary schools located in or within 2 blocks of its boundaries. Buena Vista is one of those schools and shares with San Francisco General Hospital, a small strip of land between Highway 101 and 6 lanes of traffic on Potrero Avenue. In 1999, when Elizabeth Dominguez was a 1-year-old, concerned members of the Buena Vista community signed more than 300 petitions in English and Spanish, requesting specific traffic-calming measures.¹⁹ A stop sign was requested 1 block away from the intersection where Elizabeth later died. The community identified speeding and inattention by motorists caused by the lack of traffic controls. A stop sign was requested 1 block from the intersection where Elizabeth later died. Though the sign was installed after Elizabeth's death, it had been rejected in 2000 by the Department of Parking and Traffic. Though installed after Elizabeth's death, it was rejected in 2000 by the Department of Parking and Traffic.²⁰

MARGINALIZATION THEORY AND PEDESTRIAN INJURY

Marginalization, a critical feminist nursing theory developed by Hall, Stevens, and Meleis²¹ and elaborated by Hall,^{22,23} provides

a useful theoretical framework within which to examine the pedestrian injury problem, as exemplified by the death of Elizabeth Dominguez. Hall et al defined *marginalization* as "the process through which persons are peripheralized on the basis of their identities, associations, experiences, and environments."^{21(p25)} Marginalization theory is appropriately applied in consideration of the pedestrian injury problem for at least 3 reasons.

First, marginalization theory suggests that liminal notions of place are relevant. Since pedestrians are the "moving targets" of cars, and neighborhood/street/sidewalk borders are central to the injury problem, the notion of the margin is important in understanding how Elizabeth's neighborhood, as well as auto and pedestrian areas within it, is bounded. Second, a basic aim of the theory is to address how both individuals and groups may be situated at the periphery in relation to a dominant majority. In this respect, it is important to examine how Elizabeth and her neighborhood are situated in comparison to other San Francisco neighborhoods. Finally, marginalization theory suggests that there are within marginalized individuals and groups resiliencies that may be seen as countering the inherent oppression of marginalization. These resiliencies subvert the "victimization" complex that otherwise may result from the experience of being marginalized, and suggest correctives.

Hall et al²¹ identified 7 key properties of marginalization: (1) intermediacy, (2), differentiation, (3) power, (4) secrecy, (5) reflectiveness, (6) voice, and (7) liminality. In later work, Hall²² proposed 7 additional properties relevant to consideration of the concept of marginalization: (1) exteriority, (2) constraint, (3) eurocentrism, (4) economics, (5) seduction, (6) testimonies, and (7) hope. While not all these properties need apply to every marginalized person or group, an examination of their relevance to the case of Elizabeth Dominguez and to the auto-pedestrian injury problem more generally is instructive.

Intermediacy

Intermediacy is the essential concept of marginalization. It suggests an intermediating boundary that can both separate and protect individuals or groups. In the case of pedestrian versus automobile, it is clear that the boundary of human beings is relatively fragile. Sidewalks are both figuratively and literally on the margin of the roadway. Cars add an element of great bulk and volume that separates car drivers from all other road users. Their mobility and extension of human power has created a "second skin" that many drivers may feel protects them from the world around them. As sidewalks narrow and pollution increases, people feel further constrained, whether on foot or sitting in fuming traffic jams.

The tension over parking and traffic volume in the Mission District has produced a situation where sidewalks and crosswalks are frequently blocked by cars requiring pedestrians to step into busy thoroughfares.²⁴ Just before Elizabeth Dominguez was pinned to the wall by the automobile that hit her, she had been standing on the sidewalk, presumably safe from motor vehicles. Following the rules of the road and literally staying within the boundaries failed to protect her. The resilience and resistance of the marginalized, however, was demonstrated by subsequent "slow-it down" protest processions of large groups that prevented traffic from proceeding normally and temporarily increased the space available to pedestrians.

Differentiation

Differentiation serves to maintain the boundaries and may be used to identify dominant groups and individuals as relatively homogeneous and centralized compared with more diverse marginalized communities residing on the social periphery. Resilience, however, can be seen in the efforts of those marginalized groups to claim their identity with pride. In an autocentric culture, those without cars are often stigmatized, providing a social identity to the car owner of

greater mobility and status. Personal and group uniqueness is threatened by a consumer society that mass-produces cars and fosters the desire to possess one. Culturally grounded rites of passage to adulthood are replaced by the homogenized driver's license. Advertising sells social status differentiation through choice of vehicles. On television and billboards, for example, the sport utility vehicle (SUV) has a smiling driver speeding on empty roads in the wilderness, but on Potrero Street in the Mission District of San Francisco, there are hundreds of virtually identical SUVs caught in rush hour traffic every day.

Power

This property describes the hierarchical top-down influence of dominant social institutions on marginalized communities. Marginalized groups can exercise a countervailing force through resistance to the "hegemony of the center."^{21(p28)} Many people in the Mission community use bicycles, carpools, public transportation, school buses, or walk. Some families do so to self-consciously distinguish themselves from those who rely exclusively on the personal automobile. The pedestrian can walk to far more places (inside, outside, on stairs, etc) albeit more slowly than motorized traffic. Ironically, however, as society becomes more sedentary and dependent on inefficient and polluting private automobiles, greater numbers of people are literally *disempowered* by traffic injury, diabetes, asthma, morbid obesity, stroke, and cardiovascular deconditioning.²⁵⁻³¹

Secrecy

Secrecy describes how both dominant and marginalized groups restrict information.

While marginalized groups often have more knowledge about their oppressors' ways of thinking and being than is conversely true, the exclusion of those marked as outsiders by the center is often accomplished by withholding specific information from them that could increase their access to resources.^{21(pp28-29)}

The workings of large public agencies are often fraught with complexity. It can be difficult

for marginalized groups to obtain needed information in order to press for change; agencies may not post information in appropriate languages and may feel no incentive to do so, as it would impact their budget and make their work more complex. For example, in the Mission District, activists were reproved for posting bilingual pedestrian safety meeting notices on neighborhood utility poles. Marginalized populations may also be reluctant to call attention to themselves if they are concerned about exposure of their immigration status and/or lack of English fluency. Secrecy may also help us understand the discrepancy in signage. There are huge signs on Potrero Avenue to indicate to automobile drivers which roadway to take. But there are no signs that indicate school and hospital crosswalks. In this way, secrecy reinforces the invisibility of the marginalized.

Reflectiveness

This property is defined by the fragmenting effects on marginalized persons and groups due to the experience of their oppression. Since these experiences are not validated by the dominant society, it can lead to great inner conflict and learned helplessness. Resilience is demonstrated by consciousness-raising that assists groups in overcoming the isolation and self-blame that would otherwise result. Elizabeth Dominguez's family demonstrated their resilience by resisting the dominant culture's tendency to isolate the grief-stricken. After her memorial in a local church, more than 300 people marched to the school past the site of her death, promoting reflection on the larger causes of the "accident."

Voice

The marginalized are often differentiated by communication and the mystifying function of dominant language. Because the dominant culture projects through centralized media, the marginalized are at risk of becoming passive and silent receptors. The word *pedestrian* has an alternate usage to describe somebody or something as ordinary, effectively reducing individual human beings who

lose their lives to sad statistics. The mystification of language also extends to the naming of the thoroughfares used by the dominant cars. When streets are called "arterials," "corridors," or "freeway feeders," they are seen as oriented to and serving the needs of automobiles rather than people who walk.

In addition, Elizabeth Dominguez was a daughter of non-English-speaking immigrant parents. When her mother was brought to San Francisco General Hospital, a medical interpreter was available to assist the emergency department staff. Resilience is seen in the efforts of Elizabeth Dominguez's family and community to loudly grieve and demand improvements. During safe streets demonstrations, community members chant: "Whose streets? Our streets!" This is a reclaiming of the language of daily discourse that restores voice to the marginalized.

Liminality

This property refers to the altered and intensified experience of life on the margins of society. Perceptions may be altered by life-threatening events that take us out of our normal everyday existence. While city officials often focused on the homeless people sleeping under the neighboring freeway as threats to public safety, the sudden death of Elizabeth Dominguez focused community attention on traffic as a far greater and more immediate threat to well-being and life.

Exteriority

Exteriority places individuals and groups so far to the margins of the dominant group that they may become objectively invisible. Our increased dependence on the private automobile creates a special kind of exteriority by devaluing public transportation, cycling, and walking. With automobiles already equipped with stereos, food, beverages, televisions, and the ubiquitous cell phone, cars are more than ever seen as living rooms on wheels. The separation from the outside world once achieved only by tinted-glass limousines is now more widely available, rendering walkers

even more "outside" the driving experience, part of the scenery rather than agents in their own right. The car is considered not only an extension of human power, but as the rightful owner of the road. The simple act of walking, strolling, and chatting with passersby is an act of resistance to the dominant culture.

Constraint

Constraint refers to the actual physical control and restriction of movement of the marginalized. Ironically, the use of restraint in strollers, seat belts, and car seats serves to protect vulnerable children. The repressive effect of constraint is exemplified by injury such as that suffered by Elizabeth Dominguez. Related to this concept is the fact that the physical and emotional environment adjacent to streets with heavy traffic constrains normal movement and impairs the safe mobility of those on foot. The noise and fumes of high-volume motor vehicle traffic also constrains by forcing neighbors to keep their windows closed, speak more loudly, or wear earplugs to sleep.

Eurocentrism

Eurocentrism, according to Hall, suggests that "European and North American values and technologies are viewed as superior."^{22(p99)} The European and American invention and initial mass production of the automobile has concentrated most of the private cars and their pollution in these countries. But, as in the Mission District, it is the poor, immigrants, and mobile populations who live and work beneath the shadows of freeways that suffer the most negative effects from them.²⁸

Economics

Hall defines *economics* as "the set of contingencies that affects marginalized peoples' access to resources of all kinds."^{22(p99)} The war and occupation of Iraq is thought by many to be related to the desire of the United States to control access to the raw material (oil) that feeds the automobile and the

world economy.²³ The capitalist status quo is maintained when tax-subsidized road building and relatively cheap gasoline encourages increased consumer demand for automobiles and gasoline. One sixth of what an average US car owner earns goes to pay for the car.⁶ Social class is expressed in part by car ownership, leading individuals to take on larger debt loads for a “nicer car.” Walking, in contrast, does not involve status or consumption. Consumption patterns are also oriented to cars, with large, automobile parking reliant shopping centers often dominating the tax base of cities. In older inner-city areas like the Mission, however, smaller local merchants rely on heavy foot traffic.

Seduction

Objects for sale are romanticized to all people in a consumer society. The anthropomorphism of the car and the depersonalization of the pedestrian are the results of advertising and its manufacture of desire. The enticement is to “get away from it all” with minimal outlay of physical energy. Huge billboards encourage affection for large expensive vehicles. Increased aggression and sex appeal are offered in exchange for purchasing an SUV.

Testimony

Testimony is an elaboration of the *voice* property that provides the marginalized with opportunity to communicate to the world their subjective experience. Elizabeth Dominguez’s family was impacted by their lack of English and their immigrant and pedestrian status. But Elizabeth Dominguez’s death brought many people together for solace and community. There was literal testimony to the media, church congregants, PTA groups, and agencies of local government.

Hope

This final concept of marginalization theory provides the basis for resilience to the oppressive forces of central authority in all its forms. According to Hall,

“Hope is a liberation-based aspect of health that enhances the authenticity of relations, and fuels personal and collective empowerment.”^{22(p100)} Community members came together after Elizabeth’s death because they believed in their ability to make a difference, and to some extent, they have done so. Beyond the shrine of flowers and artwork placed at the site of Elizabeth’s death, the community engaged in marches and mobilization for change. In such actions, liberation becomes an antidote to hopelessness.

TRAFFIC CALMING IN MARGINALIZED COMMUNITIES

At least partially in response to public outcry over Elizabeth’s death, several traffic-calming measures have been undertaken in the Mission District. *Traffic calming* is defined by specific engineered changes that have been shown to increase pedestrian safety.⁵ Bike lanes, for example, were already added to another street in the Mission. This slowed motor vehicle traffic and decreased pedestrian injuries. Some engineers expressed fear of gridlock due to the removal of a lane of traffic flow in each direction. But the addition of left-turn “pocket lanes” rationalized the movement of traffic. Foot, bicycle, and automobile traffic now coexist while pedestrian injury has decreased by more than half.³²

Sidewalk widening has also been used to decrease the distance needed for pedestrians to traverse automobile thoroughfares. When the sidewalk is increased in width at an intersection, it is called a bulb-out. This can reverse the trend of earlier years to expand roads and in some cases eliminate sidewalks.

In addition to reducing the roadway distance that must be crossed, traffic may be calmed by changing the color, size, and even texture of the crosswalk. School crossings are increasingly painted with bright fluorescent ladder-shaped designs. A slight elevation of pavement, with a row of embedded bricks in the asphalt, serves to subtly signify

to the driver that he or she is approaching a crossing.

One of the more expensive options is a crossing designed to passively illuminate the crosswalk with bright lights embedded in the pavement. An electric eye is activated when the pedestrian approaches the crosswalk. Lights begin flashing in each direction both from the pavement and from within a pedestrian sign adjacent to the crosswalk. It is bright enough to caution and slow drivers during full daylight. As of this writing there are currently only 2 working models in San Francisco. One is located on a 2-lane road in front of a private school that charges \$25,000 in yearly tuition³³ and paid privately for the lighting, and the other in front of San Francisco's City Hall.

Pedestrian refuge is the name given by traffic engineers to any sort of median strip located in the middle of the street.³⁴ Without sufficient time to cross the street, pedestrians can wait there for the light to cycle back to green. Potrero Avenue lacks these, and no area in the Southeast Mission even has the traffic bollards that indicate a pedestrian crossing on top of a brightly colored post placed in the middle of the street.

Elizabeth Dominguez and her family had to cross Potrero Avenue to get to their bus stop after school. The closest crossing to Buena Vista lacks the most fundamental modern traffic-calming amenity: a pedestrian signal. This had been identified and requested from the Department of Parking and Traffic in 1998, the year Elizabeth Dominguez was born. The community was told that this might be considered but to date there is still not a pedestrian crossing signal.

In addition to traffic calming, policies to reduce pedestrian injuries include education of automobile drivers, pedestrians, and cyclists. Automobile passengers, though still vulnerable, have been the beneficiaries of modern engineering. Seat belts, airbags, collapsible steering wheels, and "crumple zones" may have contributed to a decreased incidence of severe and fatal injury to automobile occupants. Airbags are feasible on the

exterior of automobiles and have been suggested as a measure that could reduce pedestrian mortality.³⁵

DISCUSSION

Elizabeth's death was not merely an unfortunate accident. Viewed through the lens of marginalization theory, it was the anticipated result of policies that marginalize pedestrians in favor of automobiles, marginalize neighborhoods transected by major freeways and thoroughfares, and marginalize the poor, young, and less powerful immigrants in our society. Nurses can draw on the properties of marginalization to help communities engage in dialogue and raise critical awareness of the larger structural factors that shape the experiences of vulnerable populations.³⁶

Such an approach is congruent with nursing's public health roots and the profession's historic concern for the poor and disenfranchised. For example, nurses and other hospital workers from San Francisco General Hospital attended Elizabeth's memorial service and testified to government agencies, engaging in what author Paul Farmer refers to as "pragmatic solidarity."³⁷ Nursing researchers have been leaders in community participatory research approaches, engaging in dialogue with communities to design questions relevant to community concerns and ensuring sampling strategies that enhance diversity.²¹ Nursing research could be used to determine whether marginalized groups and/or neighborhoods are systematically more at risk of automobile-pedestrian injuries. Qualitative research could be used to describe and understand the multiple health-related effects of higher automobile density and its association with poverty. Marginalization theory may help researchers be aware of the ways in which structural violence may be an issue in the study of pedestrian injury. The issue of our automobile-centered culture is a nursing issue. Nurses are concerned with primary prevention and public health, and, as the case of Elizabeth Dominguez illustrates, this must

involve increasing social awareness of the effects of dependence on automobiles and its implications for marginalized populations and environments. Nurses can exert leadership on

these issues by researching and articulating the many negative health effects of our society's dominance by automobile and working with communities for policy change.

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