Author's Note

Your nan fell.

Ambulance takes 14 minutes. You could be there in 60 seconds.

That is the entire argument of this paper compressed into two sentences. Everything that follows -- the psychology, the criminology, the surveillance footage analysis, the field data from three continents -- arrives at the same conclusion: the people closest to the emergency are the ones who should respond to it. And they would, if the system hadn't spent a century teaching them not to.

This thesis serves two of the fourteen goals that drive the OMXUS project.

Goal 13 ($29 emergency ring) ($29 emergency ring): "$29 ring. Press it, your people come in 60 seconds." Community emergency response based on the Hatzolah model (Israel, median response under 3 minutes, volunteer-operated since 1965) and volunteer surf lifesaving (Australia, 180,000 volunteers, oldest continuous volunteer lifesaving movement on Earth). Your network, not a call centre. The ring is a BLE mesh beacon that broadcasts to verified responders within proximity. The bystander effect is the disease. The ring is the cure.

Goal 5 (community crisis response): send the right responder to each call. Many calls are handled better by trained community members than by armed officers. The CAHOOTS model in Eugene, Oregon has operated for 35 years. Two-person
teams -- a medic and a crisis worker -- handle 20% of all emergency calls. In 2019: 24,000 calls, police backup requested 150 times. People killed: zero. Cost: $2.1 million per year, against $90 million for policing. The bystander effect is not an immutable feature of human psychology. It is a product of design. We designed systems that told people: "Don't get involved. Call the professionals. Stand back." And then we measured people not getting involved and called it a psychological law.

The Kitty Genovese story -- the founding myth of bystander research -- is itself a myth. The *New York Times* reported that 38 witnesses watched her murder and did nothing. The reality: neighbours called police. At least one person shouted from a window. Another came downstairs and held her as she died. The "38 witnesses"

figure came from a police commissioner feeding a story to a reporter. The bystander effect was built on a lie about people not caring -- and that lie became a self-fulfilling prophecy. "Don't get involved" became policy. Professional responders replaced community presence. And response times went from 60 seconds to 14 minutes.

This paper documents the evidence for reversing that. Not softly. Not incrementally. Structurally.

The research does not say people are apathetic. It says -- definitively, across 300+ incidents captured on CCTV in three countries -- that in 91% of public conflicts, at least one bystander intervened (Philpot et al., 2019). People help. They help more when they know each other. They help most when they are personally addressed and when they believe others will back them up.

Every design decision in this paper flows from that finding. The $29 ring does not hope someone will respond. It says: "You (NAME) are 47 metres from someone who needs help." It names you. It locates you. It tells you others got the same alert. It collapses diffusion of responsibility in under five seconds.

The question has never been whether people will help. The question is whether the system will let them.

Abstract

This thesis synthesises evidence from behavioural psychology, criminology, social network theory, and field deployment data to examine how bystander intervention dynamics shape violence outcomes -- and how structural system design can overcome bystander paralysis at population scale.

We advance three hypotheses, each supported by convergent empirical evidence:

1. The Visibility-Exit Path Hypothesis: The early presence of witnesses or caring responders provides aggressors with face-saving exit ramps, reducing escalation to lethal violence. Supported by Routine Activity Theory (Cohen & Felson, 1979), CCTV intervention data (Philpot et al., 2019: 91% intervention rate in public conflicts), and domestic violence wearable alert pilot studies (DHS WAMS, 2022).

1. The Critical Mass Hypothesis: Community response systems exhibit threshold dynamics described by Granovetter's (1978) collective behaviour models. Below a participation threshold, diffusion of responsibility dominates. Above it, intervention becomes self-sustaining. Validated by Cure Violence program data (NYC: 50% reduction in gun injuries, 63% reduction in shootings in intervention neighbourhoods vs. controls; John Jay College, 2023) and HarassMap's norm-change campaigns in Egypt (Elyada, 2015).

1. The Sympathy Gradient Hypothesis: Willingness to intervene varies with social proximity, moral clarity, and perceived personal risk. Bystanders intervene 70% less for acquaintances than family members in intimate partner violence (Weitzman et al., 2020). Public self-awareness cues reverse the bystander effect entirely (van Bommel et al., 2012, p 90% with intervention | Rapidly fatal |

SEVERE HAEMORRHAGE	5-15 MIN	HIGH WITH PRESSURE	~33% MORTALITY
VIOLENT ASSAULT	SECONDS	INTERRUPTS HARM	HARM CONTINUES

The gap is architectural, not a staffing problem. You cannot optimise your way to 60-second response from a centralised dispatch model. The geometry is wrong. The answer has to be proximity.

The Design

A $29 NFC ring connected to a BLE mesh network. Single-touch activation. The alert propagates to verified community responders within proximity.

What the bystander effect research tells us to build:

1. Personal address. "You (NAME) are 47 metres from someone who needs help." Not a general alarm. A named, located, personal summons. This is the van Bommel finding operationalised: accountability collapses diffusion of responsibility.

1. Multi-responder notification. The alert goes to everyone nearby, and each person can see that others received it. This is the critical mass finding operationalised: knowing others are also responding reduces perceived risk and increases confidence.

1. Tiered cascade. Close contacts first (highest sympathy gradient, fastest response), then wider community, then professional services as fallback. This is the sympathy gradient finding operationalised: leverage the people most motivated to act, but don't rely solely on them.

1. 60-second target. Community response before professional dispatch arrives. This is the Hatzolah model: the responder is already there because the responder lives there.

1. No app required for activation. The ring is the interface. Removing the smartphone barrier (not always accessible, requires fine motor control, requires unlocking) means activation is possible even when the person is injured, restrained, or panicking.

The Math

Under a Poisson spatial coverage model with willingness discount factor *w*:

Sydney CBD (20,000 people/km2) needs only **1.2% adoption** for 95% coverage at 200m radius with w = 0.10 (pessimistic willingness).

Expected nearest-responder distance at 20% adoption in urban areas: approximately **16 metres.**

Estimated response time at that density: **20-35 seconds.**

That is not a hope. It is arithmetic.

What This Is Not

This is not a replacement for ambulances, fire services, or trauma surgeons. It is a **first-responder layer** that bridges the gap between emergency onset and professional arrival. CPR before the ambulance. Pressure on a wound before the paramedic. A knock on the door before the crisis worker. A presence in the room before violence escalates past the point of no return.

The grandmother in Chapter 1 was a $29 ring. She just didn't have one yet.

Chapter 11: Conclusion -- The System Failed. The People Didn't.

The bystander effect, as popularly understood, is a story about human failure. Thirty-eight people watched Kitty Genovese die and did nothing. People are apathetic. People are cowards. People don't care.

The evidence says otherwise.

In 91% of real public conflicts, at least one bystander intervened (Philpot et al., 2019). PulsePoint increased bystander CPR by 33%. GoodSAM doubled cardiac arrest survival. Cure Violence cut gun injuries by 50%. CAHOOTS has operated for 35 years without killing anyone. Hatzolah responds in under 3 minutes. Australia has 180,000 volunteer lifesavers.

People help. They help more when they know each other. They help most when they are personally addressed, when the situation is clear, and when they believe others will back them up.

The bystander effect is not a fact about human nature. It is a fact about system design. The systems we built -- centralised dispatch, professional monopoly on response, "don't get involved" cultural messaging -- created the conditions under which the bystander effect thrives. The systems documented in this thesis -- Hatzolah, surf lifesaving, CAHOOTS, PulsePoint, GoodSAM, Cure Violence, HarassMap -- create the conditions under which it collapses.

The $29 ring is not a gadget. It is a structural reversal. It takes the grandmother's instinct -- show up, be present, care -- and gives it infrastructure. It takes the Hatzolah model and democratises it. It takes the surf lifesaving tradition and generalises it to every emergency, not just drowning.

Your nan fell. Ambulance takes 14 minutes. You could be there in 60 seconds.

Press the ring.

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Appendix A: Key Findings Data Table

HYPOTHESIS	FINDING	DATA	SOURCE	STRENGTH
Visibility-Exit Path	Violence requires isolation	Perpetrators conceal acts	Routine Activity Theory (Cohen & Felson, 1979)	Strong
Visibility-Exit Path	91% of public conflicts see intervention	300+ CCTV incidents, 3 countries	Philpot et al. (2019)	Strong
Visibility-Exit Path	Stranger vs husband intervention gap	65% vs 19% help rate	Shotland & Straw (1976)	Strong
Visibility-Exit Path	Wearable alerts prevent escalation	Pilot programmes show early warning works	DHS WAMS (2022)	Moderate
Visibility-Exit Path	Restraining orders often insufficient	Nearly half of abusers re-offend after order	SAS/Calhoun research	Strong
Critical Mass	Gun injuries down 50% in Cure Violence areas	East New York vs comparison area	John Jay College (2023)	Strong
Critical Mass	Shootings down 63%	Intervention neighbourhoods vs control	NYC Council analysis (2023)	Strong
Critical Mass	Support for violent norms dropped 33%	Community survey pre/post	John Jay evaluation	Strong
Critical Mass	Threshold models predict cascade	Theoretical foundation	Granovetter (1978)	Strong
Critical Mass	HarassMap created norm change	Bystander campaigns in Egypt	Elyada (2015)	Moderate
Sympathy Gradient	70% less intervention for acquaintances vs	IPV bystander studies	Weitzman et al. (2020)	Strong

	family			
Sympathy Gradient	Prior violence experience increases intervention	Survivor effect -- pay it forward	Moschella & Banyard (2020)	Strong
Sympathy Gradient	Risk perception inhibits action	Self-protection concerns	Latane & Nida (1981)	Strong
Sympathy Gradient	Training increases competence and action	5 Ds framework	Bystander training programmes	Strong
Sympathy Gradient	Group cohesiveness increases intervention	Social network effects	Latane & Rodin (1969)	Strong
General	Bystanders best source of pre-attack intelligence	Threat assessment data	Borum & Rowe (2021)	Strong
General	More bystanders = higher intervention likelihood	Real-world CCTV data	Philpot et al. (2019)	Strong
General	Friends/family are primary IPV interveners	Scoping review	Ghesquiere et al. (2023)	Strong
Technology	PulsePoint: 33% increase in bystander CPR	Alachua County pre/post data	Becker et al. (2023)	Strong
Technology	GoodSAM: survival to discharge doubled	London and East Midlands study	NIHR Evidence (2022)	Strong
Technology	AMBER Alerts: 1,292 children recovered	US DOJ data	AMBER Alert Program (2025)	Strong

Technology	Accountability cues reverse bystander effect	Online experiment, p