SAFETY AS NET WORK:
“APPS AGAINST ABUSE” AND THE DIGITAL LABOUR OF
SEXUAL ASSAULT PREVENTION

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Introduction

In 2011, Challenge.gov hosted an online “Apps Against Abuse” competition collaboratively sponsored by the United States Department of Health and Human Services (HSS), the Office of Science and Technology Policy, and the Office of the Vice President. It asked Americans to think up new, digital tools to help prevent sexual assault and violence, with a focus on mobile devices and young adults, such as college students. More than thirty apps were submitted to the “Apps Against Abuse” competition. No monetary prizes were offered.

In the following pages, I argue that the result of the “Apps Against Abuse” competition was a set of applications that promote and encourage a new form of bioconvergence between information, technology, and people: one that de-emphasizes personal vigilance and preparedness—hallmarks of earlier women’s self-defence culture—in favour of users creating a networked, crowdsourced self. The apps appear to alter pre-digital approaches to sexual assault and rape in two interesting and promising ways: first, they rely on geographically-distributed social networks to combat violence against individual women, and second, they serve as new evidence-generating solutions that document sexual violence through the instantaneous creation, circulation, and storage of incident data, metadata, and media.

However, these applications are not entirely unproblematic. The apps, designed almost exclusively for smartphones, encourage women end users to give themselves over to continuous group surveillance, or what has the potential to become continuous group surveillance, by friends, family members, and colleagues. In doing so, the applications seem to invite group evaluation of a woman’s routes, decisions, habits, and actions by her closest social circle(s). Thus, the applications eradicate, or at least heavily complicate, the end user’s ability to make decisions without open comment or judgment by others. And, although the apps seek to involve a woman’s social circle in effecting an
individual woman’s safety, they make no foray into the core logics of U.S. rape culture and its attendant forms of masculinity.¹

The stakes of this inquiry concern broader issues of social and technological change over time, the character and quality of work coming out of “open innovation” platforms, public understandings of rape, digital labour, crowds as creators, and emergent forms of technology-assisted selfhood(s). The applications produced for the “Apps Against Abuse” competition seem designed to interpolate their users into a panoptical social ethic, a type of bioconvergence, in which anticipation, vigilance, and record-creation are the central affects and activities in both the work of the self and the tenor of social connection. The applications do so in a way that promotes a feminized distribution of responsibility and labour, fosters surveillance, and seems to encourage peer judgment. From where did these ideas and design choices arise?

I am specifically interested in understanding some of the social conditions and political contexts that frame the particular mix of equally promising and troubling qualities characteristic of this set of applications. Two possible reasons that the apps emerging from the contest took their characteristic contours are immediately apparent: the framing of the contest itself and the extant model of proactive sexual assault prevention. One possibility is that the “Apps Against Abuse” contest instructions, guidelines, and framings were key factors in shaping the crowd’s work, encouraging it to design and program around specific elements. That contest instructions, problem statements, and framings can shape participation and outcomes in these types of public challenges and contests has been more widely documented.² A second possibility is that the crowd was drawing on, and heavily informed by, pre-existing women’s personal security practices, habits, and strategies developed in offline women’s self-defence culture, or perhaps in


the pre-digital era. Instances of replication or remediation have become a major theme, and widely documented, in studies of media, technology, and culture; seemingly “new” mediated things and practices are not necessarily so. A third possibility is that the crowd was operating relatively “on its own” in terms of its research and design process, producing a set of applications that have little basis in the contest instructions or in existing personal security practices. I contend that the crowd of contestants that participated in the “Apps Against Abuse” app development challenge was channelled by the contest guidelines and framings toward certain design pathways but, in the end, largely operated “on its own” when it comes to the resulting applications and their specific logics.

Throughout this study, I approach the apps as intimately linked to digital labour. They seek to operationalize crowdsourcing. But they also emerge from a crowdsourcing platform—one that involves lay publics in the work of government problem solving. The anthropologist Christopher M. Kelty has pointed out that recent discussions about “crowds” and “crowdsourcing” happening in the academy and elsewhere sometimes use these terms in fuzzy and problematic ways: to describe an imprecise array of social formations without sufficient attention paid to whether the social formations in question are actually new or just a “technological intermediation” of pre-existing relationships. During the process of app creation, discussed in the following section, the crowdsourcing process forged an “actually new” social formation that linked together a diverse range of contest participants working in a similar problem space around questions of sexual assault and rape. But many of the apps themselves, the resulting works of the crowd, share a common goal of seeking to operationalize a form of crowdsourcing that capitalizes on pre-
existing relationships between individual women and their immediate social circle(s). This study, then, reinforces Kelty’s observations that crowdsourcing comes in multiple and overlapping configurations and scales. I try here, following Kelty, to avoid collapsing and conflating them. I also try here to be faithful to them, as works and social formations. For instance, as part of this study I did not carry out interviews with individual “Apps Against Abuse” contestants to ask “them” about their research and design decisions and processes. This study adopts as its starting point that taking crowds seriously as work, social, and possibly subject formations requires engaging with crowds as collective entities. How to interview a crowd has yet to be clarified within the research communities that concern themselves with social studies of recent science, technology, and information technology, therefore interviews are not part of the research presented here. In short, I leave the matter of how best to interview “it,” the crowd, for future work and other scholars.

In addition to approaching the selection of apps examined here as intimately linked to digital labour, and crowdsourcing schemes specifically, I also approach the apps as instantiations of present-day feminist technoscience, which as the historian Michelle Murphy has pointed out, can follow strange, muddy, and unexpected itineraries. I make no effort in this study to “help” the apps make sense according to earlier feminist terms of analysis that accepted, if not sometimes also promoted, binary discussions of “good” vs. “bad” technologies containing “feminist” or “anti-feminist” politics. I also make no effort to situate the apps as instantiations of one kind of feminism or another. To quote Murphy: “Today feminism can be found at sites as diverse as the World Bank headquarters and street protests, making attempts to discern kinds of feminism inadequate. Feminisms, as a multitude, are not merely a taxonomy of ideological kinds; they can be profoundly antagonistic to one another. Feminisms are assembled and performed in myriad actions, details, and practices that cannot hope to fully escape larger historical forces.”

Following these interrelated points, my goal in producing this work has been to trace the process through which these specific apps emerged, and to determine whether they represent novel compositions on the part of the crowd that created them, a simple execution of contest instructions, a digital replication of pre-existing personal security practices, or perhaps some combination of those various options and approaches—refusing to start with the assumption that all things digital are “not really new,” an over-favoured claim made by many present day historians, or with the assumption that all things digital are “radically new,” a

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claim advanced by many present day technology enthusiasts and marketers—while also likewise refusing to engage in a type of historical practice that simply celebrates or condemns what, in this case, was the work of a feminist or at least feminist-leaning crowd rife with contradictions, a multitude indeed, a multitude actualized. Resolving those contradictions, or evaluating them, is not the goal of this study.

**Challenge.gov and the “Apps Against Abuse” Contest Instructions, Guidelines, and Framings**

The Challenge.gov website, which is run by the General Services Administration (GSA), was launched in 2010 as an offshoot of U.S. President Barack Obama’s “Strategy for Innovation,” a federal policy agenda meant to spur entrepreneurship in the wake of the global financial crises that surfaced in 2007–2008, and to spur research into questions and problems designated by the federal government as unlikely to be answered or solved by the private market alone.\(^7\) In addition, Challenge.gov has strong ties to Obama’s “Open Government Initiative,” which dates to 2009 and seeks to promote certain forms of government transparency and managed forms of citizen participation in select governmental activities. Designed as an online portal, various federal entities—from the Department of Homeland Security to the National Aeronautics and Space Administration (NASA) to the Department of Education—use Challenge.gov to post research problems and public challenges. Crowds of “ordinary” Americans can submit their own ideas, answers, and solutions to the public challenges during pre-set windows of time, like an online game. When the challenge deadline passes, a panel of appointed experts, citizens, or in some cases policy-making “celebrities” holding high-ranking governmental positions, adjudicates the entries based on pre-established criteria, choosing one or more winners who sometimes receive monetary awards, in addition to publicity.

Ines Mergel and Kevin C. Desouza, two researchers in the policy sciences who have investigated Challenge.gov as a policy instrument and examined backend issues that shape the challenge implementation process, summarize the platform and its agenda in these terms: “Broadly speaking, challenges can have one or more of the following goals: (1) sourcing specific

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solutions, (2) enabling the creation of new public resources (e.g., new data repositories), (3) increasing awareness of a social and/or policy issue, and (4) fostering new forms of partnerships in the public sphere (e.g., setting up partnerships between the nonprofit, private, and public sectors).”

As part of their research, Mergel and Desouza interviewed Tammi Marcoullier, the program manager for Challenge.gov. According to Marcoullier, who arrived in the position with a professional background in online content creation in the private sector: “If it’s a 50% solution, that’s 50% farther than we got on our own.” By which Marcoullier means that challenges do not necessarily “solve” problems outright, they are neither expected to do so, nor are they expected to replace governmental experts and expertise. Challenge.gov operates with multiple goals in mind, and exists as a tool among a wider set of policy instruments that includes traditional grantmaking and governmental contracting with third-party vendors. What Challenge.gov accomplishes, then, is adding the general publics into the mix of government vendors, researchers, and service providers, but in a manner that starts from a presumption of doubt when it comes to finding complete and neat solutions, and in a manner that views publicizing a problem—providing online content around a specific issue—as an openly recognized and valued part of the project’s agenda and, perhaps, at times, the only outcome of a particular challenge.

As an emergent form of online content, product, and experience, Challenge.gov offers the general publics a tremendous range of problems and activities, as well as considerable variety in terms of challenge tone, graphics, and rhetoric. Mixing the empowerment language of popular feminisms with longstanding tropes of American enterprise and entrepreneurship, the U.S. Chief Technology Officer, Aneesh Chopra, put forth the following explanation of the “Apps Against Abuse” competition when it was first announced: “We want to tap into the creativity of the American people to empower women who wish to communicate distress in a trusted and immediate way.” In a short video introducing the “Apps Against Abuse” competition, which was available for contestants to view during the challenge, Kathleen Sebelius, then Secretary of Health and Human Services, offered further context: “We’re challenging the same [software] developers who are transforming our everyday lives to develop

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9 Mergel and Desouza, “Implementing Open Innovation,” 882.
innovative electronic tools to help prevent sexual assault … there’s no force more powerful for improving lives than the ingenuity and creativity of American innovators.”¹¹ During an informational webinar aimed to clarify the background and goals of the competition for potential contestants, Audie Atienza, a behavioural scientist and the Senior Health Technology Advisor at HHS, asserted: “We’re looking for awesome, super-cool, useful, stellar, out-of-this-world apps that could be used broadly by young adults for them to keep each other safe and to prevent sexual assault as they go about their daily lives.”¹²

This rhetoric and framing did several things. First, it cast the “Apps Against Abuse” competition (i.e., competitive app development) as a venue for abstract social good without a basis in nameable labour formations. Contestants were invited to conceptualize themselves as something between volunteers, engaged citizens, online content consumers, makers, and entrepreneurs. Chopra, in particular, seems to have helped to situate women as the idealized end user of whatever products would be created by the crowd. Sebelius seems to have helped steer the crowd toward “ingenuity and creativity,” meaning originality, cleverness, inventiveness. Atienza, who echoes this emphasis on creativity and “out of the box” thinking elsewhere, seems to have also helped direct the crowd’s attention to interface elements, the gadgetry. But these promptings were open to interpretation, leading but not binding. The challenge language itself, however, was more direct and explicit: “The application envisioned will offer individuals a way to connect with trusted friends in real-time to prevent abuse or violence from occurring. While the application will serve a social function of helping people stay in touch with their friends, it will also allow friends to keep track of each other’s whereabouts and check in frequently to avoid being isolated in vulnerable circumstances.”¹³ Likewise, according to the judging criteria: “The application/prototype should allow users to designate ‘trusted friends/allies/emergency contacts’ and provide a means for checking-in directly with these individual [sic] in real-time.”

Here, then, is where it seems that key seeds of the resulting applications appear to have been planted, especially the idea of mobilizing social networks to prevent violence against individual women, and the surveillance elements.

But the idea of creating *instant evidence*, something that would come to be a recurring theme within the applications that were created by the “Apps Against Abuse” crowd, as discussed momentarily, cannot be sourced back to the contest’s guidelines, instructions, and framings; no such language appears. In fact, there were other aspects of the framings that placed a heavy emphasis on data privacy issues and on current laws and regulations governing the collection and sharing of potentially sensitive information.\(^{14}\) And ideas like absolving male perpetrators or potential perpetrators of all work and responsibility for preventing sexual assault and rape, or creating solutions that facilitate if not outright encourage interpersonal judgment and commentary, also seem to have had no basis in the official contest promptings—at least based on my research and reading of them. However, first I would like to say more about the crowd.

There were 32 participants.\(^{15}\) Participants included individuals as well as groups, such as non-profits, start-ups, and existing software companies. Some of the participants arrived at the challenge (i.e., in the crowd) from organizations and agencies that were already working on questions of sexual assault, domestic violence, and rape prevention. These participants were not necessarily approaching the challenge with a direct background in information technology and software development, but instead with backgrounds in fields like education, counselling, and social services. They likely brought with them a high degree of background knowledge concerning, at minimum, present-day rape cultures and contemporary policies and programs related to women’s health and safety. Other participants arrived at the challenge (i.e., in the crowd) from the technology sector, lacking backgrounds in questions of sexual assault and rape prevention. They likely brought with them, however, expertise in software engineering, application development, standards, mobile operating systems, and possibly, also, application marketing and distribution.

\(^{14}\) See again the *Technology, Privacy, Security & Safety Webinar*, especially the talks by Cindy Southworth and Cora Han.

\(^{15}\) The number of participants in different Challenge.gov competitions varies widely. For example, there were 9000 participants in a challenge organized by the Defense Advanced Research Projects Agency (DARPA) in 2011. This particular challenge asked contestants to reconstruct shredded documents in the form of online puzzles so that potential vulnerabilities when it comes to shredded, sensitive information could be determined by the Agency. In all likelihood, the puzzle-like nature of Shredder Challenge lowered the bar when it comes to participation as compared to original app creation, and Shredder Challenge also offered prize money. In contrast, a competition held that same year by the Environmental Protection Agency (EPA), one that asked contestants to think up new ways of harmonizing and presenting existing datasets, received only 38 entries—perhaps in part because of the topic and also because it offered no prize money. The “Apps Against Abuse” competition likewise had no monetary prize. All participation statistics are drawn from Desouza, *Challenge.gov*, 2012.
This diversity among the participants, what might be called the crowd demographics, was mirrored in the diversity of applications that resulted from the competition. Some of the resulting apps were explicitly educational and designed to teach young adults and teenagers about sexual assault and interpersonal violence, containing uneven levels of technical sophistication and elegance. On the other end of the spectrum, some of the resulting apps could do everything from linking and modeling complex datasets about registered sex offenders to connecting the end user to her own private security firm, like a home alarm system for the self. One resulting application, something of an outlier, was a game about potatoes.

When examined on the whole, some of the key recurring ideas and capabilities built into the apps resulting from the “Apps Against Abuse” competition were the following: (1) a feature that allows the end user (always imagined to be a woman) to crowd-source the task of continuously monitoring her movements and activities with the aid of GPS tracking; (2) a feature that allows the end user to send regular status alerts and updates to her crowd as she completes quotidian trips and tasks; and (3) a records-creation feature that instantly generates incident data, metadata, and media for immediate distribution to the end user’s crowd (or to law enforcement), which would allow for that content to be stored across multiple devices, presumably increasing its chances of recoverability. One app resulting from the competition, called EmergenSee, was described in the following terms: “All with a single tap … EmergenSee immediately starts recording Video & Audio while using the Phone’s GPS to track your location and movements. Within seconds all that Data is sent to your pre-selected Contacts.”16 The description for another app resulting from the competition, Pocket Watchdog, encouraged the following: “upload as much media as you can.”17 Another app, called RealHelp, explained the implications in the following manner: “Everyone who is notified will have a link to a recorded session of the incident afterward, so no matter what, there are now a lot more people involved.”18

The panel of judges, a group of experts drawn primarily from the realm of health and human services, selected two winning applications: On Watch and Circle of 6. In doing so, it might be said that, at this point, the crowd broke

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down; demographic nodes within it were re-individualized, de-crowded for the sake of the larger competition. The first winning application, *On Watch*, allows a user to enter all of her planned excursions into a modified calendar feature on her personal smartphone.\(^{19}\) For example, a user can enter her commutes to work, hobbies, chores, community work, trips to the markets, dates, special events, political work, social obligations, and the like. These activities can then be watched, tracked, and monitored by a small crowd of the user’s own making comprised of people like friends, family members, intimate partners, acquaintances, or coworkers—people who agree to participate in the work, virtually, of helping to ensure that the end user’s trips and tasks are completed safely. The application also features a big “panic button” that when tapped can immediately transmit the user’s GPS information to local authorities. The second winning application, *Circle of 6*, also uses GPS tracking and also permits the end user to create a small crowd for watching and monitoring her everyday activities.\(^{20}\) Both winning applications offered the promise, or spectre—depending on one’s point of view—of continuous, self-directed, interpersonalized surveillance. While some of these elements do seem to have taken suggestion from the “Apps Against Abuse” contest framings and guidelines, as described above, particularly the emphasis on “real time” communication and tracking, other elements cannot be traced back to the contest framings (and sometimes even contradict them)—leaving still unresolved the question of their origins as ideas and design choices. How then did the crowd come to these options and features?

**Pre-existing Women’s Personal Security Practices, Habits, and Strategies**

A second possibility explored in this study is whether the crowd of participants in the “Apps Against Abuse” competition looked to pre-existing culture and practice in the domain of women’s self-defence. Were some of these now unattributable ideas and design elements within the resulting applications a case of replication, an act of translation on the part of the “Apps Against Abuse” crowd in which offline or pre-digital self-defence cultures and strategies were appropriated and reworked in digital ways? When one thinks of self-defence culture, several things might come to mind: classes, videos, manuals, physical conditioning, and martial arts, as well as a host of small technologies like “rape

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whistles,” pepper spray, stun guns, knees, groins, and more. However, as I show here, the pre-existing self-defence culture available for the “Apps Against Abuse” developer crowd to study and mine for ideas had acquired several other focal points by 2011: many American women had begun practicing sophisticated forms of environmental surveillance and risk assessment; had taught themselves to use crime likelihoods and probabilities (i.e., data) to make decisions in “real time” about matters of personal risk; had trained themselves to employ specific affective stances; and had developed something called “quick-thinking”—techniques for expediting human response times through the use of pre-memorized scripts and formulas. In other words, despite its regular manifestations in U.S. popular culture as the stuff of post-attack montage sequences in made-for-television movies, by 2011 self-defence in the U.S. had become for many practitioners a form of hyper-vigilant, data-driven, feeling-managed, formula-rooted mobility and being. However, what I also aim to demonstrate here is that little discernible “remediation” or replication work, if any at all, took place as part of the 2011 “Apps Against Abuse” competition. Few of the self-security practices detailed here are perceivable, in a direct or indirect form, within the research and making that arose on the part of the “Apps Against Abuse” app developer crowd—which seems to have been operating largely “on its own” within a set of suggested but flexible design pathways established by the contest’s framings and guidelines.

To arrive at this claim required looking beyond the competition, investigating the ways self-security came to be normatively practiced by “ordinary” or “average” U.S. women, which is what replication would have likely entailed, at least to some degree, for the app developer crowd had they engaged in it. One of the more detailed and retrievable sets of cultural records, although certainly not the only set, but a set that captures some of the real depths and intricacies of self-security practice in the pre-digital and early digital eras, can be found in women’s self-defence manuals (which were traditionally made from just ink, glue, and paper). Dating to the 1960s as a genre, circulating in and out of small bookstores and public libraries, relatively cheap to make and purchase, and typically published by a strange brew of educators and trade writers who sometimes also dabbled in other genres like commercial self-help literature, self-defence manuals helped bring into being a virtual community of geographically scattered actors who engaged (or at least were invited to engage) in similar types of personal security practice; women separated by time and space came to be linked through a specific set of texts and their teachings, came to know similar things and similar ways of thinking and acting around matters of personal safety. What these manuals do now, then, is document as sources and traces some of the subtle but key changes that unfolded in U.S. self-security
discourse and practice over the past several decades leading up to the “Apps Against Abuse” competition. And what becomes clear when examining them, looking at self-defence manuals as a genre, is that self-security discourse and practice changed in some key ways between the 1960s and 1980s, but then stabilized, staying relatively consistent into the 2000s.

In early self-defence manuals, readers would have encountered an imaginal subject (always a woman) marked, foremost, by vulnerability and susceptibility. Moreover, such texts concentrated almost exclusively on a woman’s body; on the body’s ability to be weaponized in the case of an attack; and on physical conditioning. In addition, such texts often isolated and abstracted an attack from everyday life, emphasizing the sheer physicality of survival in what were typically portrayed as non-discriminable, non-identifiable sites and times. Ruth Horan’s *Judo for Women* (1965) offers a good example. Horan used physical techniques as the very basis of the manual’s structure. Under chapter headings like ‘Counterattacks’ and ‘Advanced Escapes’ Horan added chapter subsections with titles like ‘Rear Bent-Arm Choke with Kick’, ‘Arm Lock’, and ‘Front Medium Pin’. In this way, Horan and other early self-


22 Like many early self-defence authors, Horan possessed a black belt and taught self-defence courses at local colleges and community centres. For a biographical profile of Horan, see Jim Brietenback, “Judo For Girls—Because It’s Fun,” *Black Belt* 3, no. 4 (April 1965): 34–37. In contrast, many later self-defence authors like Reimold were writers by trade, and contributors to
defence authors disarticulated the human body into sites of vulnerability but also into sites of trainability, zones of potential reaction. Another place to see this emphasis on sheer physicality in early self-defence manuals—and within early self-security discourse and practice more generally—is by looking at the charts, diagrams, and visual renderings that frequently populated these types of texts. Self-defense manuals were exceptionally graphic, visual, and image-laden works. Earlier manuals, with their narrower focus on physicality, typically employed tightly cropped images of human bodies and bodily movements, again, abstracted from any particular time and place. For example, of the 195 black and white photographic images that appeared inside the relatively early *Self-Defense for Women: A Simple Method* (1969), 186 of them (95%) contained absolutely no contextual detail beyond a staged physical encounter (see Figure 1). The victim is part of an imagined community that refuses victimhood but she is and would be, in the event of an attack, according to these types of texts, “on her own,” with only her body-as-weapon to save her.

This larger idea, of potentially being “on one’s own” during an attack, never leaves self-security culture as it came to be popularized in the five decades prior to the “Apps Against Abuse” challenge, but the near-exclusive emphasis within self-security discourse and practice on human bodies and bodily movements changed considerably. Over the 1970s and 1980s, self-defence manuals swelled in their spheres of concern, increasingly foregrounding scenario-based situatedness and increasingly urging readers to learn new, scripted ways of urban and suburban sensing. Manuals began to exhort readers to conduct environmental scanning, to conduct outward surveillance while navigating through everyday life (i.e., surveillance on streets, strangers, parks, transit systems, and the like); and typically also exhorted readers to memorize short behavioural and cognitive “if-then” scripts that could be enacted later in the case of an attack (“in situation X, do A, then B, then C, then D”). Such mechanistic formulas suggested that personal security was a

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matter of steps and rote practices and characteristic (ideal type) scenarios. In other words, later self-defence manuals articulated a self-empowerment discourse in which a woman could “take back” her safety, by means of vigilance and preparedness but also, increasingly, by means of visual sweeping and surveying, in what we would now call “real time,” and by mobilizing pre-memorized scripts and formulas that were meant to be “stored” within the potential victim for later recall, alongside the emergent empowerment discourse that framed women as a coherent (typically un-raced, un-classed, heterosexual) grouping and framed women’s personal security as a fundamental right. Readers were encouraged to become globally hyper-vigilant, superlatively honed in physical reflex, primed to think and act—a subject constituted both of fear and of its cathexis, constituted through anticipation, assessment, internal memory, and reaction.

Figure 1  Early self-defence manuals abstracted sexual assault and rape from everyday life, focusing almost exclusively on moments of attack and physical reflexes (Tegner & McGrath, Self-Defense for Women, 9). Original re-drawing by Jocelyn Monahan, used with permission.

‘Surviving Rape’ to ‘Surviving Acts of God’, ‘Fire Safety’, ‘Attack by Animals’, ‘Mob Scenes’, and ‘Sexual Advances in the Office’. In other words, later self-defence authors like Reimold expanded the purview of their self-described expertise and began teaching readers how to anticipate and handle a wide variety of potentially dangerous, but also concrete, situations. The manuals began to bring everyday life into the texts and “zoom out” from their earlier, almost exclusive focus on bodies and bodily movements. These same shifts can be seen in the imagery as well. In stark contrast to the black and white photographic images that appeared within the relatively early Self-Defense for Women: A Simple Method (1969), Every Woman’s Guide to Self Defense (1979), which was published just a decade later, captures some of the ways in which self-defence manuals, and self-security discourse and practice more generally, expanded in scope over the 1970s, 1980s, and beyond. Rather than portray abstract attacks, such manuals increasingly situated their readers within palpable times and places, such as detailed urban environments shaped by overlapping infrastructures, systems, subpopulations, and temporalities that could physically isolate individuals or, on the other hand, create unexpected encounters with strangers (see Figure 2). In fact, many self-defence manuals began to include detailed non-attack imagery, depictions of women simply moving through quotidian time and space.25

Figure 2  Later self-defence manuals increasingly focused on everyday life scenarios, schooling readers in site and time-specific postures and everyday surveillance techniques (Hudson, Every Woman’s Guide, 49). Original re-drawing by Jocelyn Monahan, used with permission.

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25 The extent to which manuals moved toward non-attack imagery obviously varied across texts. Hudson’s imagery (the source of Figure 2) included things like highway overpasses, light posts, and various bits of urban and suburban infrastructure yet remained largely people-oriented and people-populated. On the other hand, authors like Kaufman, Rudeen, and Morgan, Safe Within Yourself, included imagery closer to environmental simulations, some lacking people altogether.
As part of teaching women these strategies, the art and science of reading for risk in everyday life, many self-defence authors also began to collect and publish a considerable amount of crime-related data—sometimes peppering it into the various scripts and formulas that typically populated such texts but at times creating entirely separate chapters dedicated to data, crime statistics, and community-derived folk knowledge. A good example can be found in Patricia Stock’s 1975 Woman alert!!! Stock’s manual was typical in that it focused heavily on “personal defense techniques” (kicks, blows, releases, etc.). But the manual was somewhat atypical in that Stock included full citations, allowing us to reconstruct, after the fact, some of her research practices and knowledge work. Among the items cited: Current Population Report Series No. 511 Population Estimates and Projections (1973); Uniform Crime Reports in the United States (1973); Penal Code of the State of California 1974 Pocket Supplement; and Social Indicators, 1973: Selected Statistics on Social Conditions and Trends in the United States, to name just a few. Stock and other self-defence authors began doing a considerable amount of original research to produce their texts, aggregating existing pools of knowledge, mapping crime likelihoods and probabilities against things like population counts, and instructing readers in how to apply this type of data as part of their everyday self-security routines. Readers were increasingly encouraged to think in terms of calculation. In addition, and alongside these changes, many later self-defence authors began to place a strong and muscular emphasis on the psychological and affective sides of self-security, extolling the importance of perpetual awareness, mental preparation, alertness, and “quick thinking”—techniques for expediting human thought processes by drawing on, summoning up, and executing the many scripts and formulas printed within the texts. 26

26 Woman alert!!! offers an exemplar in this case as well: the growing emphasis over time on psychological and affective aspects of personal security. A major difference between the first edition of Stock’s manual, published under the title Personal Safety and Defense for Women (1968), and the second edition published as Woman alert!!! is the addition of an entirely new chapter called “Psychological Defense”. According to Stock’s later edition: “Psychological defense involves keeping calm, listening carefully to exactly what the attacker is saying, communicating with him in a rational manner, and attempting to identify the attacker for later verification and reporting to the police” (Stock, Woman alert!!!, 83). As part of this same chapter, Stock presents her readers with 14 vignettes, each organized as a “quick thinking” narrative. However, Stock is hardly the only example of these changes over time. In fact, “quick thinking” narratives would become something of their own sub-genre by the 1980s. See Denise Caignon and Gail Groves, eds., Her Wits About Her: Self-Defense Success Stories by Women (New York: Perennial Library, 1987).
By the late 1980s, it could be said that the following security-aware subject(ivity) was fully ideated (and encouraged) by women’s self-defence manuals: hyper-vigilant, empowered to claim personal security as a fundamental right but profoundly alienated, paranoid, fixated on the minute details of her context, focused on a future attack, trained to believe that such an attack could unfold in stock or formulaic ways, surveillant of others, moving furtively and defensively through “real time,” entirely on her own in the face of an attack, and entirely on her own in the later telling of her story. Self-defence manuals began exhorting women to commit themselves, and consistently practice, conditional alertness, to attune their senses to the minutiae of their environments, to constantly weigh up, evaluate, and sense the possibilities for attack with particular expectations that were meant to be self-calibrated, not only from moment to moment and context to context, but also in accordance with the crime statistics and patterns of crime increasingly published within such texts, and to be geared toward the execution of not just physical manoeuvres but also “quick thinking.”

Many of these ideas and practices—efforts to enrol women’s sensoria into new, formulaic, feeling, and data-driven routines for the sake of sexual assault and rape prevention—along with their physical figures and frames—many of these ideas that transformed rapidly between the 1960s and 1980s, then seem to have stabilized. Based on my research, little seemed to change for several decades. This stabilization is documented inside self-defence manuals, of course, but also within many other sources, traces, and formats, including those associated with the personalization of computing that took place during this same general window of historical time. For example, in a 1994 issue of *PC Magazine* there was once a product review for a software program called *Stun & Run*. The program, developed by WinMicro Corp., was developed to train women in self-defence gestures, movements and responses using still images and scenarios. However, as the reviewer wrote at the time: “This program’s strength is that it brings together a wealth of valuable information in one place and joins that information with visual aids. Included [in the program] are a primer on crime statistics and a psychology lesson emphasizing that you, the victim, need not be victimized.”

Returning to self-defence manuals, a text titled *Conceptual Self-Defense*, which was published by C.V. Rhoades in 2000, told its readers the following: “If you imagine enough ways of getting out of a

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situation your mind will be programmed, like a computer, to take over and remember what you did to save your life ‘the last time’ even if saving your life was all in your imagination.”29 From a 2007 text entitled *Self-defense: Steps to Survival*, by Katy Mattingly: “Awareness has physical, psychological, and emotional components…. You need to develop awareness of your surroundings, of other people—including potential attackers—and of your own feelings, thoughts, and habitual actions and reactions.”30 From a 2009 text entitled *Personal Defense for Women*, by Gila Hayes: “I call it absolute awareness: the acknowledgement that danger exists, coupled with moment-to-moment watchfulness.”31

**The Crowd was Operating Relatively “on its own” in Terms of its Research and Design Process**

The findings of this study break down in the following manner: this particular crowd was given some clear suggestions by the “Apps Against Abuse” program management team and its high-level advocates, and these suggestions appear to have played a direct role in shaping, at least to some degree, the resulting applications. But the crowd also exceeded the contest framings in a number of ways by generating ideas and features that have no obvious roots in the “Apps Against Abuse” challenge instructions and guidelines: some provocative and promising (like the idea of instant evidence) but others that are highly problematic. However, based on the research presented here, pre-existing women’s personal security practices, habits and strategies developed in offline women’s self-defence culture do not appear to have been the source of inspiration for the un-attributable features that came out of the “Apps Against Abuse” crowd’s work. Put simply: this particular crowd does not seem to have been particularly engaged in replication activities. In fact, the apps it created de-privilege the interior realm of memorization, individual affect, internalized physical reflexes, personal psychology, data digestion, and scripted formulas in favour of a networked panopticism that completely reverses the terms of surveillance that came to be normalized in self-security discourse and practice in the pre-digital and early digital eras. Whereas pre-existing forms of self-security practice typically emphasized the dangers “out there” and predictable confrontations with a physical threat, the apps are orientated “inward”—


surveillance is directed to and through an individual self who enrolls and responsibilizes a small, self-chosen “out there” to engage in what might be called “social defence” of a self with the aid of information and communications technologies. Whereas pre-existing self-security culture was orientated to the empowerment of individual women to resist or survive an attack, both physically but also increasingly through a focus on using data and psychology while navigating everyday life, the apps are orientated to the temporal frame before an attack (setting up one’s contacts, activating the networked aggregation) or projectively to the temporal frame following an attack: pushing the panic button, generating the evidence, distributing the data, the investigation, the potential trial.

This particular crowd seems to have been operating inside a general design pathway established by the “Apps Against Abuse” competition but also relatively “on its own” in terms of its research and design process. Nonetheless, the following provocative and potentially scalable (and adaptable) idea(s) emerged from “an entity” that currently exceeds or evades direct interviewing and interrogation: one’s pre-existing social network of friends, family members, coworkers, and acquaintances comprise a relatively stable and established pool of concern (not to mention eyes, ears, brains, data plans, and SD cards) that can potentially be linked, harnessed or harvested for something far more strange and innovative than things like everyday socializing, professional networking, photo sharing, political organizing, keeping up with old classmates, hooking up, and the like. Personal social networks can be sub-divided into small, issue- or problem-specific crowds that, if willing to enter into such a bioconvergent social cont(r)act, can be activated and enrolled within an individual’s life on a running basis for specific, perhaps even radical and charged, reasons. In response to some questions and concerns raised by the crowd during the “Apps Against Abuse” contest, as it was still live and unfolding, Audie Atienza responded: “We will take all these suggestion into consideration in the next iteration/revision of this challenge.” However, “this challenge” to which Atienza refers, as suggested by the work presented in this study, is far thornier than Atienza seems to imply here. The issue at hand is not one of simply versioning the “Apps Against Abuse” competition into something a bit more robust. It might involve questioning whether crowds-as-creators really should just be left to operate “on their own.” It involves remaking rape politics at a moment when earlier modes of selfhood are rapidly obsolecung and new

modes of selfhood are quickly becoming thinkable and doable via recent and emerging developments happening at the nexus of information technology, subject formation, interpersonal behaviour, collective intelligence, hardware, software, social problem formulation, precision government defunding, cyberinfrastructure, knowledge brokering, electrospace, routers, servers, packets, protocols, algorithms, feminisms, technoscience, and labour. Because despite this nexus, and despite its many possible futures and mutations, still, according to the latest audits and estimates, still, three years after the “Apps Against Abuse” competition: another sexual assault or rape occurs in the U.S. every 133 seconds.33