



Women's Defenses Against Sexual Violence

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Abstract

Despite much research devoted to the causes of sexual violence, less has focused on identifying the defenses women deploy to prevent sexual violence, or ameliorate its costs. We present two studies (N = 582 women) using a convenience sample from a university in the southern United States. Across two studies, we used an act nomination paradigm to identify defenses against five potential perpetrators: strangers, acquaintances, dates, romantic partners, and a general prompt. We created the largest preliminary taxonomy of women's defenses against sexual violence encompassing over 9,000 spontaneous nominations categorized into 48 tactics and 19 categories. We highlight the variety of defenses, the specificity of some defenses as a function of participant-perpetrator relationship, and discuss future directions.

Keywords Sexual violence · Rape · Women's defenses against sexual violence · Rape avoidance

Sexual violence has posed recurrent adaptive problems for women ranging from the bypassing of female choice to physical, psychological, and social harm (e.g., Mgoqi-Mbalo et al., 2017; Perilloux et al., 2012; Tenaw et al., 2022). Previous research has documented that women use certain strategies to avoid sexual violence, but prior research has not adequately explored the potential variation as a function of perpetrator type and context. Little work has been devoted to identifying the full landscape of defensive tactics women might use (e.g., avoiding dangerous locations, not traveling alone, dressing conservatively; McKibbin et al., 2009, 2011; Snyder et al., 2011; Snyder & Fessler, 2013). Few prior studies on defenses, to our knowledge, distinguish between different types of perpetrators of sexual violence – such as strangers, acquaintances, and romantic partners (Cisneros, 2019; Hickman & Muehlenhard, 1997; Kelly & DeKeseredy, 1994). Moreover, no studies have attempted to identify the possibly large spectrum of different defenses across the

sample space of contexts. The current study addresses these limitations by using an act nomination paradigm¹ to describe the variety of possible defenses by separately identifying five different types of perpetrators of sexual violence to broaden our understanding of women's defenses against sexual violence. We explore how women's responses differed across hypothetical perpetrator-participant relationship and temporal horizon (i.e., before/during and after an assault).

Given the costly consequences of sexual violence, as well as its recurrence over human evolutionary history (Buss, 2021; Chon & Clifford, 2021; Coleman, 2015; Dworkin et al., 2017; Lalumiere et al., 2005; Morgan & Thompson, 2021; National Institute of Justice, 2010; Palmer, 1989; Perilloux et al., 2012), it is reasonable to hypothesize that women have developed or evolved defenses to prevent its occurrence and stanch its costs. Sexual conflict theory posits wherever one sex offensively inflicts reproductive costs on the other sex, the targeted sex will likely evolve defensive adaptations (e.g., Arnqvist & Rowe, 2005; Buss, 2017; Parker, 1979). Thus, women are hypothesized to have learned, developed, or evolved psychological defenses reducing the likelihood of experiencing sexual violence and mitigating the costs following completed assaults (Buss, 2021; McKibbin et al., 2011; Thornhill & Palmer, 2000).

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¹ An act nomination paradigm is the first step to the act frequency paradigm (Buss & Craik, 1983). Originally used in psychological research on personality, the act nomination enables varied generation of behavioral manifestations of psychological contents. See Method section for more details.

Since sexual violence can occur in many situations and women have varying resources at their disposal, we expect women would have a large suite of defensive mechanisms, sensitive to the context in which sexual violence may occur. One possible context includes the relationship between self and the potential perpetrator. Although much research focuses on sexual violence perpetrated by strangers, most sexual violence in modern environments is perpetrated by individuals known to the victim (World Health Organization, 2010). Successful defenses against strangers may not represent successful defenses against acquaintances, dates, or romantic partners.

Past research has primarily investigated defensive behaviors that were identified a priori, either through observation or theoretical generation (McKibbin et al., 2011; Meskelyte & Lyons, 2020; Meyer & Post, 2006; Snyder et al., 2011; Thornhill & Thornhill, 1990; Wilson & Mesnick, 1997). No work has mapped the full taxonomy across contexts. Here, we use an act nomination paradigm to identify a wider range of possible behaviors across different time horizons (i.e., before, during, after). Additionally, the prevalence of studies into defenses against sexual violence from strangers does not match the actual variation in victim-perpetrator relationships (World Health Organization, 2010). Defenses used against perpetrators within the victim's social network would likely have vastly different social repercussions (e.g., Thornhill & Thornhill, 1990). Since social relationships are essential to human survival and reproductive success (e.g., Kramer, 2010; Page et al., 2017; Silk et al., 2013; Tooby & Cosmides, 1996), we expect the defensive mechanisms to be sensitive to this variation.

Study 1

Method

Participants

We collected participants through the participant pool at The University of Texas at Austin, posting on social media, and snowball sampling. The participant pool at The University of Texas at Austin includes students who were currently enrolled in undergraduate psychology courses. Most in the participant pool were enrolled in Introductory Psychology courses; however, other courses may also register. The authors did not have access to the distribution of courses in which participants were registered. Data were collected between August 2021 and May 2022. The study was advertised as “Self-Protection in Different Scenarios.” In total, 477 women participated. We excluded 213 participants for failing preregistered inclusion criteria (https://bit.ly/OSF_Defenses).

Final analyses included data from 262 women ($M_{\text{age}} = 22.00$, $SD_{\text{age}} = 8.89$, Range = 18–75). Our participants' ethnicities included 49% White ($n = 128$), 20% Hispanic or Latinx ($n = 53$), 19% Asian ($n = 50$), 7% “multiethnic” ($n = 18$), 2.7% “other” ($n = 7$), and 2.3% Black or African American ($n = 6$). Our participants' relationship status included: 149 single individuals (57%), 79 individuals in committed romantic relationships (30%), 15 married individuals (6%), 12 dating individuals (4.5%), four individuals who identified as “other” (1.5%), and three individuals who were divorced or separated (1%). Most of our participants were heterosexual ($n = 191$, 73%). Other participants' sexual orientations were as follows: 19% bisexual ($n = 50$), 3% homosexual ($n = 9$), 3% “other” ($n = 9$), 0.7% preferred not to say ($n = 2$), and 0.3% did not respond ($n = 1$). Roughly 24% of our sample ($n = 64$) reported they had experience with sexual assault, followed by 14.9% ($n = 39$) reporting they were unsure. Nearly 2% ($n = 6$) declined to answer, and 58% ($n = 153$) reported no history of sexual assault.

Materials

Sexual Violence Prompts We designed sexual violence prompts to capture a wide range of contexts in which sexual victimization is prevalent. Our primary goal was documenting intra-individual variation across a range of risky situations and describing the wide range of defenses at hand. We focused more on creating relatively naturalistic scenarios, rather than focusing on highly systematic variable control between scenarios.

Stranger Threat “Imagine that you must travel to a notoriously dangerous area where there is a lot of crime. It is possible that you may be targeted for a crime, so you prepare ways to protect yourself. List three to six things you would do to protect yourself in this situation:”

Acquaintance Threat “Imagine that you were invited to a party. Your friends are excited about the event and get you excited. When you're getting ready for the party, however, one of your friends tells you that she's been sexually assaulted by one of the men who is likely to be there. She reassures she knows most of the other people invited, and she trusts most of them. List three to six things you would do to protect yourself in this situation:”

Date Rape Threat “Imagine that you have been talking to a man on a dating app for a couple of days. You feel some attraction to him during your chats online, and he seems to be fun. He asks you to meet up in person, and

you agree. However, you're a bit nervous since this will be the first time you've met someone from online. List three to six things you would do to protect yourself in this situation:"

Partner Threat "Imagine that you're in a relationship and recently you have been very busy with work and school, leaving little time for intimacy between you and your partner. The next day that you'll both be free is coming up, and you plan on seeing each other this weekend. The last time you spoke with him, he seemed upset and said, "I don't care what you say; no matter what, we will have sex this weekend." He has become more aggressive and insistent on having sex without concern for your consent. List three to six things you would do to protect yourself in this situation:"

General Threat Prompt "Since it is likely that the self-protective behaviors you nominated for the above scenarios may be similar, would you like to list any additional behaviors you would do to protect yourself?"

Individual Differences Measures

These data were part of a larger study, so our participants also responded to a series of individual difference measures. As these measures were not central to the current report and were collected for planned future papers, we did not include them in our current reported analyses.

Procedure

Participants followed the link advertising the study and provided their informed consent. Participants then responded to each of the five prompts designed to elicit a range of rape avoidance behaviors. In response to each prompt, participants were instructed to list three to six ways they may protect themselves during the threat – providing a total of at least 15 defense nominations per participant. Across participants, the order of prompts were randomized to mitigate potential order effects. Finally, participants responded to individual difference measures including demographic information, sociosexual orientation, perceived mate value, fear of crime, and perceived formidability. These measures were also randomized to mitigate potential order effects. University participants were compensated 0.5 credit hours, and participation from online posts was completely voluntary. The study was approved by the Internal Review Board at The University of Texas at Austin (IRB ID: STUDY00002151).

Results

Coding Defense Responses

The first author developed a coding scheme of major themes following a mix of inductive and deductive qualitative methods described in Elo and Kyngäs (2008). We chose an inductive method to create our coding scheme due to behavioral defenses against sexual violence being fragmented and incomplete across previous studies (Elo & Kyngäs, 2008). The deductive portion of the coding scheme was informed by defense categories informed by theoretical discussions in Buss (2021, i.e., Chap. 8) and factors found in McKibbin et al. (2009). Upon completion of data collection, the first author—along with one of four research assistants—read through the nominations and further added defense categories to the coding scheme informed by participant responses that did not fit into extant categories from Buss (2021) or McKibbin et al. (2009). In total, 25 major themes emerged (Table 1). Following finalization of the coding scheme, three additional research assistants blind to the study's hypothesis independently coded all spontaneously nominated responses ($N=4,467$). Research assistants also recorded how many social allies were nominated within a single nomination (e.g., "bring my brother and my friend" = 2), the relationship between the participant and nominated ally (e.g., "Bring my brother" = "kin"; "Bring my best friend" = "friend"), and the sex of the ally (e.g., "Bring my brother" = "male").

We calculated an inter-rater reliability analysis across the three independently coded responses, Fleiss's $\kappa=0.33$ to 0.87 – indicating a fair to substantial level of agreement between raters. One portion of nominations indicated poor inter-rater reliability, Fleiss's $\kappa=0.11$. This was due to portion of coding missed by one research assistant (Fleiss's $\kappa=0.81$ without missing data). Fleiss's kappa was appropriate for measuring three or more independent raters' agreement on categorization of nominal data (Fleiss, 1971).

Frequencies of Defenses

Women nominated a total of 4,467 defenses. Because we had less than 4 observations in one cell and the variance between cells were quite large, we ran Poisson regressions (Hayat & Higgins, 2014). We ran a series of Poisson regressions to determine if the frequency of nominated defenses statistically differed from each other. There was no evidence of over dispersion, $\text{dispersion}=1.87^{-12}$, $Z = -5.3^{11}$, $p > .98$. There were statistical differences among the frequency of nominating different defenses, $\chi^2(24)=4160.3$, $p < .001$ (Table S1). See Fig. 1 for visual representation of defenses across perpetrator condition.

Table 1 A taxonomy of women's defenses against sexual violence informed by Study 1 and Study 2

Category	Defense	Code definition	Examples	Frequency (%)		
<u>Avoiding Assault</u>				St.1	St.2 – <i>Prevent</i>	St.2 – <i>Aftermath</i>
Bodyguards	Alert Bodyguard(s)	Any mention of notifying/ calling someone.	“Share my location at all times” “Tell at least two friends where I am going and when and who I will be with” “If walking home, I would make sure I would call my friends when I got home.” “Tell family where and when I’m going” “Send periodic safety texts to a friend as a check in” “Have a best friend call me during [the date]” “Make friends and family aware of my changed relationship status”	763 (17.1)	259 (11.4)	--
	Enlist Bodyguard(s)	Any mention of bringing someone.	“Travel with a partner.” “Stay with a group” “Not go out at night except with a group of people or large male friend” “Make sure to find someone to walk with, as long as they are a trusted individual.” “Stay with a friend” “Have friends come with you [on the date] incognito” “Bring family member to pick up my things”	514 (11.5)	118 (5.2)	--
	Feign Bodyguard(s)	Any mention of pretend- ing that a bodyguard has been alerted/enlisted.	“If a stranger asks me where I am going or is trying to follow me or something like that, I can let them know that I am meeting my parents and they are expecting me.” “Pretend to be on the phone to appear like someone will know if something happened”	7 (0.2)	--	--
	Avoidance					
Avoidance	Avoid unlit/ isolated areas/ being alone	Any mention of avoiding areas with little-to-no light or areas with mini- mal escape routes.	“Walk in an area with light” “Make sure to meet during daylight hours.” “Meet in a public place!” “Stay in public areas” “No private spaces on first few dates”	331 (7.4)	125 (5.5)	64 (2.7)
	Avoid Danger- ous Locations	Avoidance of dangerous areas	“Avoid unsafe areas” “Avoid known dangerous areas”	--	20 (0.9)	2 (0.1)
	Avoid Atten- tion/Men/ Advances	Any mention of dressing and/or presenting yourself in a way that avoids drawing attention to oneself/avoiding potential perpetrators.	“I would wear no makeup and avoid eye contact with strangers. People are less likely to approach you if you do not look at them.” “Avoid eye contact and walk quickly” “Do not be alone with him - or, do not be the only girl in the room with him and other males” “If he tries to talk to me, I’ll be polite but distant/uninteresting” “Avoid the man in question”	275 (6.2)	25 (1.1)	8 (0.3)
	Avoiding Situation Entirely	Any mention of avoiding scenarios that may lead to an assault.	“Make excuses to avoid situation” “Cancel plans with that person and break off communication if aggression persists.” “Consider not attending the party (personally not much of a partier anyway)” “Never see him again”	258 (5.8)	--	--
	Avoid Traveling at Night	Any mention of actively avoiding traveling at night.	“Not stay out past 10 pm.” “I wouldn’t stay out past midnight.” “Go during the day” “Make the visit during daylight hours”	43 (1)	22 (1.0)	2 (0.09)

Table 1 (continued)

Category	Defense	Code definition	Examples	Frequency (%)		
Physical Appearance	Concealing/Ensuring Possession of Important Items	Any mention of making sure any important items (e.g., wallet) are out of sight.	“Don’t carry valuables.” “Don’t wear jewelry or anything that looks expensive” “Put locks on my backpack/bags” “Wear my backpack frontwards and ensure that it’s always in my view/tethered to me.”	92 (2.1)	--	--
	Dressing Androgynously / Conservatively	Any mention of dressing in typically masculine clothing and/or clothing that hides women’s body shape (e.g., baggy clothing).	“Wear clothing that doesn’t expose a lot of skin.” “Dress androgynously” “Look like a male.” “I would try not to dress in a conspicuous manner.”	60 (1.3)	1 (0.04)	2 (0.1)
	Monitor Body-Language	Any mention of altering body language to appear more confident / deter assaults.	“Never look like I am lost or confused.” “Walk with straight back, head held high” “Stand up tall and walk with a purpose.” “Be confident” “Frown if being talked to.”	26 (0.6)	--	--
Indirect Social Defenses	Preemptively dissolve relationships	Any mention of cutting ties with the potential perpetrator	“Break up with him.” “Break up” “Break up as he’s not the type of man I want to be with.” “Consider ending the relationship.”	116 (2.6)	15 (0.7)	--
	Preemptively gather more information about individual	Collecting information about a potential perpetrator	“I would try to look more into his background.” “Google him before the date to make sure he is who he says he is.” “Do my own online background check (look for criminal behaviors)” “Stalk his social media.” “Ask around about him (I did this and found out a guy I met online had scared a woman so badly that she feared for her life...I didn’t know her, but the friend I asked about the guy did know that woman)”	82 (1.8)	--	--
	Maintain independence*‡	Mentions of actions to maintain independence from the individual in question.	“Take my own car”	--	11 (0.49)	--
	Activism/Expression‡	Engaging in public work to increase the knowledge about sexual violence, decrease rates of sexual violence, or negatively moralize sexual violence	“Activism for policy change” “Attend protests”	--	10 (0.4)	166 (7.1)
<u>Escaping During Assault</u>				St.1	St.2 <i>prevent</i>	St.2 <i>aftermath</i>
Vigilance	Vigilance Against Unwanted Intoxication	Any mention of actively not consuming alcohol and/or drugs	“Be very careful of my drink and/or food.” “Not get drunk.” “Never leave my drink unattended.” “Do not accept drinks from people I don’t trust.” “Drink as little alcohol as possible.” “Stay sober.”	225 (4)	63 (2.8)	29 (1.2)
	Increased Vigilance	Any mention of scanning/monitoring surroundings to always ensure awareness	“I check my mirrors many times when driving in order to make sure no one is following me.” “Be hyper aware of my surroundings.” “Stay vigilant of surroundings.” “Use store windows to keep an eye on anyone following me.” “Only have one earbud in.”	150 (3.4)	160 (7.0)	77 (3.3)

Table 1 (continued)

Category	Defense	Code definition	Examples	Frequency (%)		
Withdrawal	Physically Distance Oneself‡	Mentions of placing distance between the	“Keep distance between me and them” “Don’t get within arm’s reach.”	--	1 (0.04)	3 (0.1)
	Run Or Hide from Danger	Running/driving away with the intention of getting out of the situation OR a mention of having a plan to leave the situation.	“Then I would most likely keep running until I’m eventually found.” “Run.” “Know ways to exit the location” “Have an escape plan”	72 (1.6)	108 (4.8)	40 (1.7)
Verbal Defenses	Verbal Defense	Any mention of using verbal communication as a defense mechanism.	“Seriously talk to him about his behavior.” “Talk to him over the phone/text before meeting to gauge his mood/discuss the weekend plans.” “Threaten them.” “Tell him he can’t act that way.”	175 (3.9)	37 (1.63)	14 (0.6)
	Alarm Calling	Any mention of attempting to draw attention to oneself (e.g., shouting).	“When alone, make a scene to get attention.” “Bring something that could make a loud noise in case he tries anything” “Scream loud enough for people to hear me.” “Scream and shout when in danger.” “Don’t be afraid to be loud.”	40 (0.9)	222 (9.8)	52 (2.2)
	Assert Boundaries‡‡	Mentions of discussions about boundaries or statements of non-interest	“say no firmly” “talk about boundaries” “Be direct about intentions.” “Discuss boundaries with partner.” “Know how to stand up for yourself.”	--	173 (7.6)	63 (2.7)
Physical/Aggressive Defense	Arm Self with Weapon	Any mention of bringing or carrying a weapon (e.g., pepper spray, knife, firearm)	“Bring small handgun.” “Bring a knife.” “Taser.” “Carry pepper spray.” “Carry keys between my fingers.”	635 (14.2)	377 (16.6)	143 (6.1)
	Aggressive Defense	Any mention of engaging or potentially engaging in PHYSICALLY aggressive acts (e.g., punching, kicking)	“Hit the person” “Take a self-defense class.” “Learning self-defense” “Practice krav maga.” “Kick them in the balls.”	84 (1.9)	377 (16.6)	83 (3.5)
Appeasement, Pleading, Acquiescence	Acquiesce	Any mention of “giving in” and choosing not to act	“Do nothing” “Just let it happen”	1 (0.02)	10 (0.4)	11 (0.5)
Tonic Immobility	Body Paralysis Vocal Cord Paralysis					
<u>Reducing Harm After Assault</u>				St.1	St.2 <i>prevent</i>	St.2 <i>aftermath</i>
Aftermath Concealment	Camouflage Bruises Showering/ Douching					
Medical Support	Physical Medical Support‡	assistance from hospitals / medical doctors to treat any physical effects from the assault	“Go to the hospital” “Abortion” “STD Testing” “Pregnancy test” “Take care of physical injuries” “Emergency contraception”	--	--	353 (15.0)
	Mental Health Support‡	assistance from mental health practitioners or peer support in the vein of supporting one’s mental health	“Contact a mental health professional.” “See a therapist.” “See friends and family for moral support.” “Tell close friends/family to avoid feeling alone.” “Talk to a parent/therapist” “Connect with support services.” “Attend support groups”	--	9 (0.4)	338 (14.4)

Table 1 (continued)

Category	Defense	Code definition	Examples	Frequency (%)		
Self-Soothing Behaviors	Practice Self-Care‡	deliberate actions and practices to maintain or improve one's physical, mental, and emotional well-being	"Mindfulness" "Journaling about thoughts" "Remember it wasn't your fault" "Reconnect with hobbies" "Positive affirmations"	--	--	71 (3.0)
	Escapism through Substance Use‡	using drugs to dull the pain	"Drink a lot" "Pills" "Use drugs and alcohol to make themselves feel better"	--	--	4 (0.2)
Manage Information Flow	Avoid Telling People / Only Tell Certain Individuals‡	Guarding information about the assault / sharing information about the assault only to those chosen by the victim -- including silence	"Talking about it with trusted people" "Never talk about it" "Staying quiet" "Not tell common acquaintances about it" "Not telling friends and family." "Hiding it"	--	29 (1.3)	109 (4.6)
Bodyguards	Alert Bodyguards in Aftermath	Any mention of telling a social ally about the assault	"Tell my mom" "Immediately tell someone close to me." "Call the police"	--	--	142 (6.0)
	Enlist Bodyguards in Aftermath	Any mention of asking a social ally for help following the assault	"Seek immediate help or safety." "Have a friend come get me." "Ask friends to stay with you at all times." "Reach out to peers"	--	--	152 (6.5)
Social Withdrawal / Isolation	Social withdrawal/ Isolation‡	Deliberate or unintentional reduction of social interactions and engagement with others.	"Isolate from others" "Leave job" "Stop going out with friends" "Avoid social media" "Stay home"	--	--	44 (1.9)
	Take A Break from Dating/ Sex‡	Withdrawing from the dating market/practicing celibacy	"Abstain" "Staying away from any type of sexual acts" "Not going on more dates." "Delete dating apps"	--	--	31 (1.3)
	Dissolution of Relationships	break off social relationships with the assaulter or others	"Break up with them" "Stop talking to them" "Cut contact with the acquaintance." "Stop talking to their friends"	--	--	101 (4.3)
Legal Action	Collect evidence*‡	take efforts to document evidence of the assault.	"Seek immediate help, 911 to report crime, Medical services for test kits, pregnancy test/ etc." "Try to preserve as much evidence as possible." "Take pictures" "Saving messages"	--	3 (0.1)	39 (1.7)
	File a report*‡	behavioral efforts to legally document or prosecute the assault	"File a report to police" "Title IX report" "File a restraining order"	--	7 (0.3)	31 (1.3)
Posttraumatic Stress	Avoid potential triggers (e.g., location, people)‡	avoiding certain individuals, places, or things that remind them of the assault	"Avoid the area where the assault occurred" "Avoid confrontation about the assault" "Avoid the perpetrator" "Avoid situations where you would have to see this person."	--	--	44 (1.9)
	Intrusive memories Flashbacks Withdrawal	--	--	--	--	--
	Emotional suppression‡	Mentions of ignoring one's emotional responses	"Forget" "Repress the memory" "Don't feel things"	--	--	22 (0.9)

Table 1 (continued)

Category	Defense	Code definition	Examples	Frequency (%)		
Indirect Social Defenses	Relocation‡	mentions of physically leaving the area where the assault happened for extended periods of time OR permanently	“Moving away” “Leave the town until perpetrator is caught” “Moving in with family” “Move out if living with partner.”	--	7 (0.3)	8 (0.3)
	Gather more information	Collecting information about a potential perpetrator	“I would try to look more into his background.” “Stalk his social media.”	82 (1.8)	--	--
	Whisper Network‡	Any mention of spreading information about a perpetrator to other individuals.	“Warn other people about that man.” “Report it on dating app” “Exposing them” “They can report the behavior to a superior/ advisor in hopes of demeriting the assaulter.” “Make sure other friends you have in common won’t experience the same thing.” “Tell the assaulter’s family and friends.”	38 (0.9)	7 (0.3)	20 (0.9)
<u>Other Categories</u>				St.1	St.2 <i>prevent</i>	St.2 <i>aftermath</i>
Other	Other	Catch-all category whereby defenses do not succinctly fit in with other categories.	“Acting insane or disgusting if someone approaches them threateningly”	384 (8.6)	68 (3)	48 (2)
	Non-response	Any mention of tactics that are not defensive.	“I’m a guy.”	81 (1.8)	4 (0.12)	34 (1.5)

Table 1 displays the coding scheme, examples, and frequency (%) of all nominated defenses across Studies 1 and 2. Defenses without definitions, examples, and frequencies are theoretically informed categories from Buss (2021). These indicate hypothesized defenses not spontaneously nominated by participants within our studies. Defenses are categorized into broad categories and temporal functions (i.e., avoiding an assault, escaping during an impending assault, and reducing harm after assault). *categorized as “Other” in Study 1. †categorized as “Verbal Defense” in Study 1. ‡categories unique to Study 2

Condensed Defenses Nominated in Study 1 as a Function of Perpetrator Type

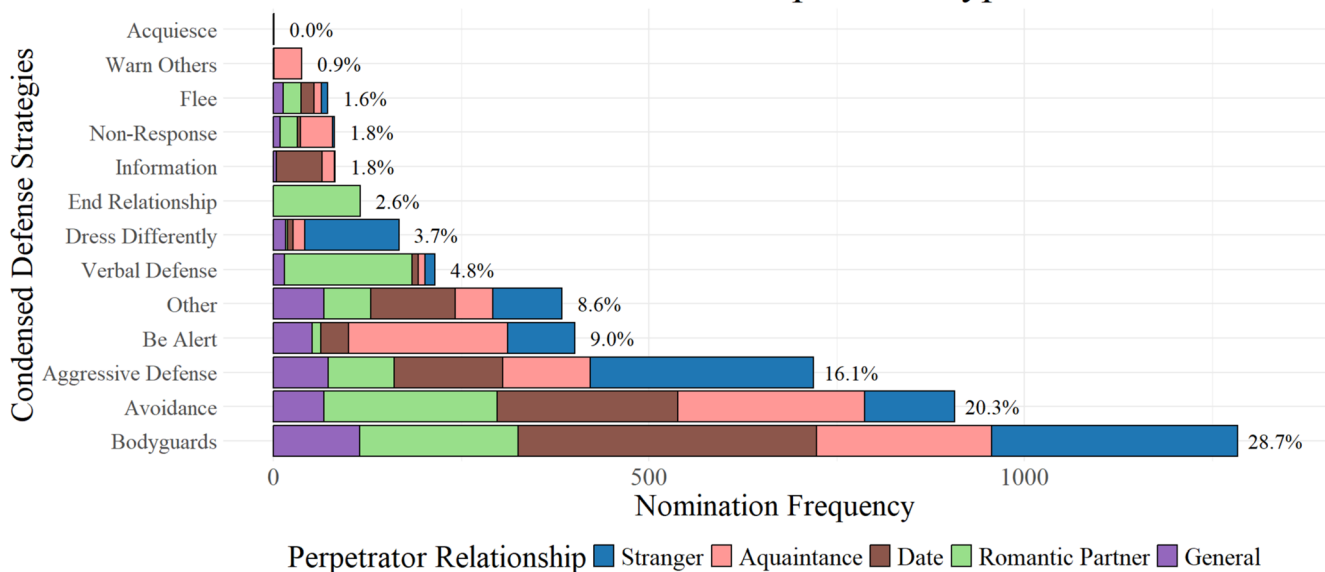


Fig. 1 Figure displays frequency of nominated defenses across condensed categories. The percentage at the end of each bar represents the total proportion of nominations represented by said category collapsed

across perpetrator relationship. The proportion of nominations from different hypothetical perpetrators are represented by stacked bars. Study 1’s stranger prompt did not explicitly elicit sexual violence

Frequently Documented Defenses Women's most frequently nominated defense included the use of social allies (i.e., bodyguards; $n=1,284$). Women alerted their bodyguards 763 times (17.10%), enlisted their bodyguards 514 times (11.50%), and feigned bodyguards 7 times (0.16%). Anticipating aggressive defense by bringing weapon or pepper spray ($n=453$; 10.10%) or carrying a weapon ($n=182$; 4.07%) was the next most frequent category of spontaneously nominated behaviors. Avoidance of unlit or isolated areas ($n=331$; 7.41%); avoidance of attention, people, or advances ($n=275$; 6.16%); avoidance of traveling at night ($n=43$; 0.96%); and avoidance of situations entirely ($n=258$; 5.78%) were the next most frequently nominated defenses. Verbal Defenses ($n=175$; 3.92%) such as telling a perpetrator to stay away or explicitly saying no to sexual requests and Alarm Calling ($n=40$; 0.90%) such as yelling and making a scene to draw attention from bystanders were other commonly nominated defenses. Women also nominated aggressive defenses ($n=84$; 1.88%). Many of these were anticipatory statements such as "take a self-defense class" or "practice self-defense just in case" rather than statements of active aggressive defense during an attack (e.g., "knee him in the groin," "Attack the rapist if approached"). There were 72 nominations (1.61%) of running away or fleeing from the scene, and 1 nomination (0.02%) of acquiescing—or giving in—to the romantic partners' demands. Three hundred and eighty-four responses (8.60%) were coded as "other" defenses. These included statements such as "drive my own car," "bring a condom," and "not share details about where I live until I know this person more."

Infrequently Documented Defenses in Previous Studies Women also nominated some defenses not typically documented in past studies (cf. McKibbin et al., 2009, 2011). Women nominated sobriety ($n=225$; 5.04%) as an important defense, mirroring common advice given to women. Another category of defenses included ending a relationship with the potential perpetrator ($n=116$; 2.60%). Participants discussed changing their clothing to appear more sexually conservative or androgynous ($n=60$; 1.34%), concealing their valuables in their purse or backpack ($n=92$; 2.06%), and wearing shoes in which they could easily run ($n=15$; 0.34%). Relating to the defense of changing clothing, women also nominated that they would display unwelcoming body language or body language indicating confidence and the ability to protect themselves ($n=26$; 0.58%). These nominations included statements like "frown if being talked to," "have a strong loud personality that feels unbendable," and "look somewhere between neutral and absolute bitch." Women noted they would seek more information about the

situation ($n=82$; 1.84%) as an anticipatory defense. The final category of defenses nominated included creation of a whisper network ($n=38$; 0.85%). These nominations included statements about warning other women about a potential rapist in the vicinity. Eighty-one nominations were non-response answers (e.g., "I'm a guy", "There is no threat"; 1.81%).

Differences in Defenses as a Function of the Perpetrator-Victim Relationship

To determine whether women spontaneously nominated defenses at different rates as a function of the relationship between perpetrator and participant, we ran a series of Poisson regressions. Nested models and maximum likelihood model comparisons were used for hypothesis testing. There was a statistical interaction between perpetrator relationship and defense category nominated, $\chi^2(77)=2,821.6$, $p < .001$. Table 2 contains pairwise comparisons. We examined some defenses here; however, we fully explored the pairwise comparisons across perpetrators in the OSF materials. Figure 1 displays frequency of defenses as a function of perpetrator-relationship.

Several defense categories were perpetrator specific – highlighting the importance of specifying relationships between perpetrator and participant when studying women's defenses against sexual violence. One understudied defense includes women's sobriety. Women nominated staying sober as a defense in response to acquaintance threats 172 times. This was statistically different compared to stranger threats ($n=3$), threats by romantic partners ($n=8$), and threats by potential dates ($n=30$). Another defense highlighting the importance of specifying the relationship between participant and perpetrator includes manipulating one's body language. Women spontaneously nominated tactics in the body-language category 18 times against strangers, 6 times against an unspecified perpetrator, but only once in response to acquaintances and dates. Terminating the relationship with a perpetrator ($n=116$) and acquiescing ($n=1$) were nominated in the romantic partner threat; however, these defenses were not nominated in response to other perpetrators.

Discussion

Study 1's prompts were not designed to systematically vary the setting in which sexual assault occurred. Sexual violence by one's romantic partners, acquaintances, and strangers often occur in different scenarios like Study 1's prompts. Evidence suggests that stranger rape is more likely to occur in contexts with greater anonymity and isolation (e.g.,

Table 2 Study 1 pairwise comparisons of frequency of defenses as a function of perpetrator relationship

Category	Tactic	Relationship to perpetrator				
		Stranger	Acquaintance	Date	Romantic partner	General
Bodyguards	Alert Bodyguard(s)	165 _{bce}	39 _{acd}	327 _{abde}	168 _{cbe}	64 _{acd}
	Bring Bodyguard(s)	159 _{cde}	194 _{cde}	70 _{ab}	42 _{ab}	49 _{ab}
	Feign Bodyguard(s)	4	--	--	1	2
Avoidance	Avoid Unlit/Isolated Areas	43 _{bce}	4 _{acd}	223 _{abde}	51 _{bce}	10 _{acd}
	Avoiding Attention/People/Advances	42 _{bcd}	121 _{ace}	7 _{abde}	81 _{ace}	24 _{bcd}
	Avoiding Situation Entirely	11 _{bd}	123 _{ace}	10 _{bd}	99 _{ace}	15 _{bd}
	Avoid Traveling at Night	24 _b	1 _{ae}	--	--	18 _b
Physical Appearance	Concealing/Ensuring Possession of Important Items	85 _{bce}	3 _a	1 _a	--	3 _a
	Dressing Androgynously / Conservatively	32 _{bcede}	12 _a	5 _a	3 _a	8 _a
	Monitor Body-Language	18 _{bc}	1 _a	1 _a	--	6
	Wear Running Shoes	8	1	1	--	5
Indirect Social Defenses	End Relationship	--	--	--	116	--
	Gather More Information	1 _{bc}	16 _{abc}	61 _{ae}	--	4 _c
	Whisper Network	--	37 _d	--	1 _b	--
Vigilance	Staying Sober	3 _{bc}	172 _{acde}	30 _{abd}	8 _{bc}	12 _b
	Be Alert of Surroundings	68 _{cde}	39 _{cd}	6 _{abe}	3 _{ab}	34 _{acde}
Withdrawal	Flee	8	10	17	24	13
Verbal Defenses	Verbal Defense	3 _d	2 _d	3 _d	166 _{abce}	1 _d
	Alarm Calling	10	7	5	4	14
Physical / Aggressive Defense	Bring Weapon	182 _{bcede}	87 _{ae}	112 _{ade}	54 _{ace}	18 _{abcd}
	Carry Weapon	98 _{bcede}	23 _a	30 _a	14 _a	17 _a
	Aggressive Defense	17 _c	7 _e	2 _{ade}	20 _c	38 _{bc}
Appease-ment, Pleading, Acquiescence	Acquiesce	--	--	--	1	--
Other	Other	92 _b	50 _{ac}	112 _{bde}	63 _c	67 _c
	Non-Response	2 _{bd}	43 _{abce}	4 _d	23 _{abc}	9 _b

Table indicates pairwise comparisons for the Poisson regression predicting defense frequencies as a function of perpetrator-participant relationship. Interpretations of pairwise comparisons are in [Supplemental Materials](#). Empty cells indicate no nominations for that perpetrator. Subscripts indicate comparison targets with statistical differences within rows. All subscripts are Bonferroni-adjusted for multiple comparisons. a=compared to strangers; b=compared to acquaintances; c=compared to dates; d=compared to romantic partners; e=compared to general threats

warfare, lack of bodyguards present; e.g., Hahnel-Peeters, 2023; Vance et al., 2024). Intimate partner rape, however, is more likely to occur in fits of jealousy and suspected infidelity (e.g., Aloyce et al., 2024; Buller et al., 2023). Due to the conflation of sexual violence context with perpetrator-relationship and the lack of nominated defenses against the *consequences* of sexual violence, we conducted a second study. We also addressed the lack of explicit specification of sexual victimization across prompts.

Women have also likely faced different adaptive problems divided across time horizons of threat management. The defensive behaviors performed to avoid sexual victimization are likely different in content than those performed to mitigate costs incurred by a completed sexual assault (Hahnel-Peeters, 2025). Study 2 also included a between-subjects condition with prompts designed to elicit defenses following sexual victimization.

Study 2

Method

Participants

We collected participants through the participant pool at The University of Texas at Austin. The study was advertised as “Individual Differences in Protective Behaviors.” These data were collected between August 2023 and May 2024. Three hundred and thirty-two individuals responded to the study. We removed three participants for failing ReCaptcha with a score of less than 0.50 (*reCAPTCHA V3*, n.d.), twelve participants for not meeting inclusion criteria (i.e., female and 18 years or older), and 16 participants due to self-selection out of the dataset following debriefing. A total of 301 participants were included in final data analyses.

Participants were randomly assigned to one of two conditions designed to elicit different temporally bound defense behaviors: *Prevent* or *Aftermath*². Participants in the *Prevent* condition ($n=148$) were between the ages of 18 and 23 ($M=19.28$, $SD=1.18$). Our participants were ethnically diverse with 30.4% ($n=45$) identifying as White, 29.1% ($n=43$) identifying as Hispanic, 27.7% ($n=41$) identifying as Asian, 6% ($n=9$) identifying as Black/African American, 4.7% ($n=7$) identifying as multi-ethnic, and 2% ($n=3$) identifying as either “other” or did not respond. Participants also reported their experiences with sexual assault. Most participants (76.4%; $n=113$) reported no sexual assault history. Eighteen participants (12.2%) reported a history of sexual assault, and 17 (11.5%) reported they may have experienced sexual assault. Participants’ relationship status and sexual orientation were not recorded due to a survey programming error.

Participants in the *Aftermath* condition ($n=153$) were between the ages of 18 and 26 ($M=19.22$; $SD=1.28$). Participants in the aftermath condition were ethnically diverse: 32.7% identified as White ($n=50$), 29.4% identified as Asian ($n=45$), 26.1% identified as Hispanic ($n=40$), 5.88% identified as Black/African American ($n=9$), 3.92% identified as multi-ethnic ($n=6$), 1.3% identified as “other” ($n=2$), and 0.65% identified as Native Hawaiian/Pacific Islander ($n=1$). Most participants (73.9%; $n=113$) reported no sexual assault history. Twenty-nine participants (19%) reported a history of sexual assault, and 11 (7.1%) reported they may have experienced sexual assault. Participants’ relationship status and sexual orientation were not recorded due to a survey programming error.

Materials

Sexual Violence Prompts Participants responded to four different sexual assault prompts systematically varied across perpetrator-victim relationships. The prompts were also systematically varied based on temporal condition (*Prevent*, *Aftermath*).

The sexual violence prompts were designed to explicitly measure nominated defenses against sexual assault. Because sexual assault has such a broad definition, participants first read the definition of sexual assault before reading each of the prompts.

The definition of sexual assault presented to those in the *Prevent* condition read:

Sexual assault can take many different forms and be defined in different ways. Here, we use the term **sexual assault**

referring to sexual contact or behavior occurring without consent of the victim. Some forms of sexual assault include:

- Attempted rape.
- Forcing a victim to perform sexual acts, such as oral sex or penetrating the perpetrator’s body.
- Penetration of the victim’s body (rape).

The *Aftermath* condition was asked to nominate defenses that would protect them from the *consequences* of sexual assault. Participants read the above definition along with the instructions below:

Sexual assault has many negative **CONSEQUENCES** for victims.

These consequences include:

- Damage to one’s sexual and social reputations.
- Negative effects on self-esteem.
- Potential physical damage and sexually transmitted infections.
- Unwanted or untimely pregnancies.
- Psychological pain, including depression, anxiety, and posttraumatic stress disorder.

We’re curious about how women protect themselves from these negative consequences following a successful sexual assault.

Regardless of temporal condition, participants all read versions of the following prompts. The prompts read as followed:

Please list three to six ways someone may protect themselves from [the **CONSEQUENCES**] from a **STRANGER/ACQUAINTANCE/DATE/CURRENT ROMANTIC PARTNER** sexually assaulting them:

Participants then freely wrote between three to six different defenses in provided textboxes following each condition of the prompt.

Demographics Participants also responded to basic demographic questions including their biological sex, identified gender, ethnicity, age, and sexual violence history.

Procedure

Upon following the Qualtrics link hosting the survey, participants read and provided their informed consent.

² Participants in the *Prevent* condition ($n=148$) were instructed to nominate behaviors in the context of a possible or impending assault. Participants in the *Aftermath* ($n=153$) were instructed to nominate behaviors in the context of a completed assault.

Participants were then randomly assigned into the *Prevent* condition ($n=148$) or the *Aftermath* condition ($n=153$). They then responded to demographic items. Participants responded to four versions of the prompts in random order, one for each of four perpetrator-relationships. Following a debriefing message, participants were thanked for their time. This study was approved by the Internal Review Board at The University of Texas at Austin (IRB ID: STUDY00006014).

Results

Study 2 identified defense tactics both nominated Study 1 and unique to Study 2. Following Study 1, we had a coding scheme including 25 defense categories. Because Study 1 only including prompts differing in hypothetical perpetrator-participant relationship, our coding scheme did not include nuance for before, during, or post-assault. Following the same inductive and deductive procedure as Study 1 (Elo & Kyngäs, 2008), we created nine additional categories. Most of these categories described defenses in the aftermath – reflecting the explicit manipulation of temporal context. These categories included: Escapism through Substance Use, Legal Action, Managing Information Flow, Relocation, Practice Self-Care, Seek Physical Medical Assistance, Take A Break from Dating/Sex, Mental Health Support, and Whisper Networks. We present the detailed coding scheme for Study 2 in Supplemental Materials. The same research assistant who assisted in the inductive creation of categories during Study 1 assisted in Study 2. Six new research assistants blind to the Study's hypothesis rated participants' nominations – pairs of two research assistants were assigned overlapping participants' data to code for interrater reliability. Two raters, rather than three, were used to conserve the research assistants' energy and attention.

A Poisson regression indicated no statistical differences in number of defenses nominated across time conditions: $z=1.21$, $p=.228$ (Table S2). Because the use of defense tactics may differ in content across temporal conditions, we examined the frequency and contents of defenses across each condition separately. Many categories overlapped with those found in Study 1 (Table 1).

Prevent

We calculated an inter-rater reliability analysis across the two independently coded responses, Cohen's $\kappa=0.621-0.944$ indicating a fair to substantial level of agreement between raters. Most Cohen's κ were greater than 0.700 indicating moderate to strong agreement of categorical ratings for two independent raters (Cohen, 1960). See [supplemental materials](#) for breakdown of Cohen's κ s (Table S3).

Frequency of Defenses Women nominated a total of 2,268 defenses to prevent a sexual assault. We ran a Poisson regression to determine if the frequency of nominated defenses statistically differed from each other. There was no violation of the dispersion assumption, dispersion = 7.27^{-12} , $Z = -4.46^{11}$, $p > .999$. There were statistical differences among the frequency of nominating different defenses, $\chi^2(18)=3422.8$, $p < .001$ (Table S4).

Frequently Nominated Defenses Women's most frequently nominated defense included aggressive defenses, such as arming oneself with a weapon, taking a self-defense course, and fighting back ($n=754$; 33.2%; Fig. 2). Women's second most frequently nominated defense included verbal defenses (e.g., clearly stating boundaries, pleading with the perpetrator, alarm calling; $n=432$; 19.0%) and relying on social allies for protection (e.g., sharing location with friends/family; $n=377$; 16.6%). Vigilance of people and surroundings ($n=223$; 9.83%), several forms of avoidance ($n=192$; 8.47%), and fleeing or hiding ($n=108$; 4.76%) were the next most frequently nominated defenses to avoid a sexual assault.

Non-common defenses, representing less than 4% of nominations included managing information flow ($n=29$; 1.28%), social withdrawal/isolation ($n=15$; 0.66%), maintaining one's independence ($n=11$; 0.49%), taking legal action ($n=10$; 0.44%), acquiescing ($n=10$; 0.44%), activism/expression ($n=10$; 0.44%), medical support ($n=9$; 0.40%), whisper networks (e.g., bits of information shared between individuals in hopes of warning one another about sexually aggressive men; $n=7$; 0.31%), relocation ($n=7$; 0.31%), physically distancing oneself ($n=1$; 0.04%), managing one's appearance through clothing as ways to avoid a sexual assault ($n=1$; 0.04%), and "other" defenses ($n=68$; 3%). Four nominations were coded as non-responses (0.18%).

Differences in Defenses as a Function of the Perpetrator-Victim Relationship To determine if women spontaneously nominated defenses at different rates as a function of the relationship between perpetrator and participant, we ran series of Poisson regressions. There was a statistical interaction between perpetrator relationship and defense category nominated, $\chi^2(36)=184.87$, $p < .001$. Table 3 contains pairwise comparisons with p-values adjusted for multiple comparisons. We examine some defenses here; we fully explored the pairwise comparisons across perpetrators in the [supplemental materials](#).

Among the most nominated defenses in the *Prevent* condition, there were statistical differences as a function

Defenses Against Impending/Ongoing Assaults

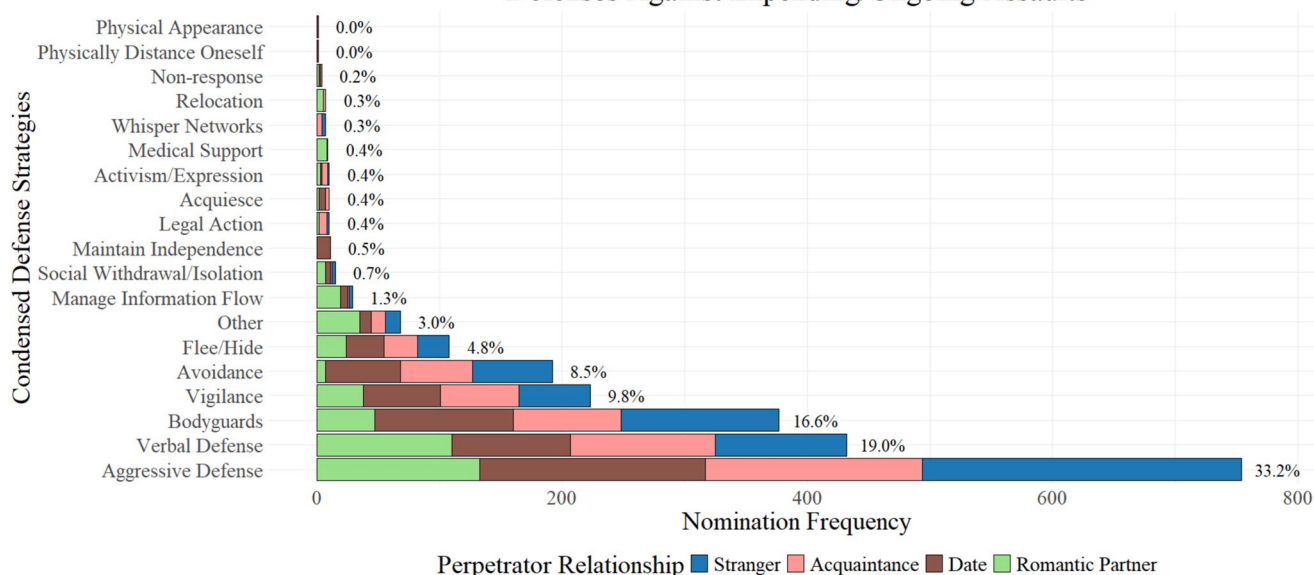


Fig. 2 Figure displays frequency of nominated defenses across condensed categories in the *Prevent* condition of Study 2. The percentage at the end of each bar represents the total proportion of nominations

of hypothetical perpetrator relationship for aggressive defenses, bodyguards, avoidance, “other,” and managing information flow (Fig. 2). For space considerations, we review aggregated categories below (e.g., aggregate alert and enlist bodyguards). Table 3 identifies pairwise comparisons as a function of perpetrator within more specific behavioral tactics. Participants were more likely to nominate aggressively defending against strangers ($n=260$) compared to acquaintances ($n=177$, $p_{adj} < 0.001$), dates ($n=184$, $p_{adj} = 0.002$), and romantic partners ($n=133$, $p_{adj} < 0.001$). Participants were more likely to nominate aggressively defending against dates compared to romantic partners, $p_{adj} = 0.026$. There were no statistical differences in nominating aggressive defenses against acquaintances compared to dates or romantic partners, $ps_{adj} > 0.077$. Participants were more likely to nominate bodyguards as a defense against (a) strangers ($n=129$) compared to acquaintances ($n=88$, $p_{adj} = 0.034$) and romantic partners ($n=47$, $p_{adj} < 0.001$); (b) acquaintances compared to romantic partners ($p_{adj} = 0.003$); and (c) dates ($n=113$) compared to romantic partners ($p_{adj} < 0.001$). There were no statistical differences in nominations of bodyguards against dates compared to strangers or acquaintances, $ps_{adj} > 0.472$. Participants were statistically less likely to nominate avoidance against romantic partners ($n=7$) compared to strangers ($n=65$; $p_{adj} < 0.001$), acquaintances ($n=59$; $p_{adj} < 0.001$), and dates ($n=61$; $p_{adj} < 0.001$). There were no other statistical differences in nomination of avoidance, $ps_{adj} > 0.999$. Participants were statistically more likely to nominate “other” defenses against

represented by said category collapsed across perpetrator relationship. The proportion of nominations from different hypothetical perpetrators are represented by stacked bars

romantic partners ($n=35$) compared to strangers ($n=12$; $p_{adj} = 0.008$), acquaintances ($n=12$; $p_{adj} = 0.008$), and dates ($n=9$; $p_{adj} = 0.002$). There were no other statistical differences across perpetrators for “other” defenses, $ps_{adj} > 0.999$. Participants nominated legal action more frequently against acquaintances ($n=6$) compared to strangers ($n=2$) and romantic partners ($n=2$), $ps_{adj} < 0.001$. Participants were also statistically more likely to nominate “manage information flow” in response to romantic partners ($n=19$) compared to strangers ($n=3$; $p_{adj} = 0.018$) and acquaintances ($n=1$; $p_{adj} = 0.025$) – but not dates ($n=6$; $p_{adj} = 0.083$). There were no other statistical differences in nominations of managing information flow, $ps_{adj} > 0.582$. There were no statistical differences in women’s nominations of aggressive defenses across verbal defenses ($ps_{adj} > 0.918$), vigilance ($ps_{adj} > 0.065$), or fleeing/hiding ($ps_{adj} > 0.999$).

Tactics Used in the Aftermath of Sexual Assault

We calculated an inter-rater reliability analysis across the two independently coded responses, Cohen’s $\kappa=0.567 - 0.841$ indicating a fair to strong level of agreement between raters. Most Cohen’s κ were greater than 0.70, indicating moderate to strong agreement of categorical ratings for two independent raters (Cohen, 1960). See [supplemental materials](#) for breakdown of Cohen’s κ s.

Frequencies of Defenses Women nominated a total of 2,350 defenses. We ran a Poisson regression to determine if the frequency of nominated defenses statistically

Table 3 Study 2 pairwise comparisons of frequency of PREVENT defenses as a function of perpetrator relationship

Category	Tactic	Relationship to perpetrator			
		Stranger	Acquaintance	Date	Romantic partner
Activism/Expression	Activism/Expression	1	5	1	3
Aggressive Defense	Carry a weapon	136_{bd}	89_{ad}	99_d	53_{abc}
	Physically Aggress	124_{cd}	88	85_a	80_a
Bodyguards	Alert Bodyguard(s)	69_d	51_c	99_{bd}	40_{ac}
	Enlist Bodyguard(s)	60_{cd}	37_c	14_{ab}	7_{ab}
Avoidance	Avoid Dangerous Locations	14	2	2	2
	Avoid areas at night/Unlit areas	17_{bc}	4_a	1_a	—
	Avoid being alone/Avoid isolated areas	23_{cd}	41_d	56_{ad}	5_{abc}
	Avoid men	11	12	2	—
Vigilance	Increased vigilance of surroundings	44	48	37	31
	Vigilance against unwanted intoxication	14	16	26_d	7_c
Manage Appearance	Manage appearance through clothing	--	--	1	--
Maintain Independence	Maintain Independence	--	--	11	--
Verbal Defense	Alarm Calling	83_d	53_d	58_d	28_{abc}
	Assert Boundaries	18_{bd}	50_a	32_d	73_{ac}
	Verbally Defend	6	15	7	9
Flee/Hide	Run/Find a safe space to hide	26	27	31	24
Acquiesce	Acquiesce	--	3	5	2
Legal Action	Collect evidence	1	1	--	1
	File report	1	5	--	1
Dissolution of Relationships	Dissolution of relationships	3	1	4	7
Manage Information Flow	Manage Information Flow	3_d	1_d	6	19_{ab}
Relocation	Permanently leave the area – including moving to another city	--	2	--	5
Medical Assistance	Mental health support	1	--	--	8
Whisper Networks	Gather information through social networks about perpetrator	3	4	--	--
Physically Distance Self	Increase space between self and perpetrator	--	--	1	--
Other	Other	12_d	12_d	9_d	35_{abc}
	Non-Response	--	1	1	2

Table 3 indicates pairwise comparisons for the Poisson regression predicting defense frequencies as a function of perpetrator-participant relationship in the *Prevent* condition. Cells with dashes were not nominated in these data. Interpretations of pairwise comparisons are in the *Supplemental Materials*. Bolded lines indicate statistical pairwise comparisons. Subscripts indicate comparison targets with statistical differences within rows. All subscripts are Bonferroni-adjusted for multiple comparisons. a = compared to strangers; b = compared to acquaintances; c = compared to dates; d = compared to romantic partners

differed from each other. There was no evidence of over- or under-dispersion, dispersion = 2.57^{-12} , $Z = -7.97^{11}$, $p > .999$. There were statistical differences among the frequency of nominating different defenses, $X^2(19) = 2,376.5$, $p < .001$ (Table S5).

Frequently Nominated Defenses Women's most frequently nominated defense included seeking medical support (e.g., physical examinations, pregnancy tests, STI examinations, mental health support; $n = 691$; 29.4%). Their second most frequently nominated defense included social support from bodyguards ($n = 294$; 12.5%). Aggressive defenses ($n = 226$; 9.62%), social withdrawal/isolation ($n = 176$; 7.49%), and activism/ expression ($n = 166$; 7.06%) were the next most frequently nominated defenses to mitigate incurred costs and avoid future sexual victimization. Verbal defenses

($n = 129$), managing information flow (e.g., only telling trusted friends, not telling anybody; $n = 109$), and increased vigilance ($n = 106$) represented 14.64% of all spontaneous nominations in the *Aftermath* condition.

More unique defenses nominated in the *Aftermath* condition representing less than 4% of nominations included avoidance ($n = 76$; 3.23%; Fig. 3), behaviors to reduce stress (e.g., substance abuse, self-care; $n = 75$; 3.19%), legal action (e.g., pressing charges; $n = 70$; 2.98%), and posttraumatic stress (e.g., emotional suppression, avoiding potential triggers; $n = 66$; 2.81%). Fleeing ($n = 40$) represented 1.70% of nominations in the aftermath. Other nominations included whisper networks (e.g., warn other women about him, damage his reputation; $n = 20$; 0.85%), acquiescing ($n = 11$; 0.47%), relocation ($n = 8$; 0.34%), physically distancing oneself from the perpetrator ($n = 3$; 0.13%), and changing one's physical

Defenses Mitigating Costs Following Sexual Violence

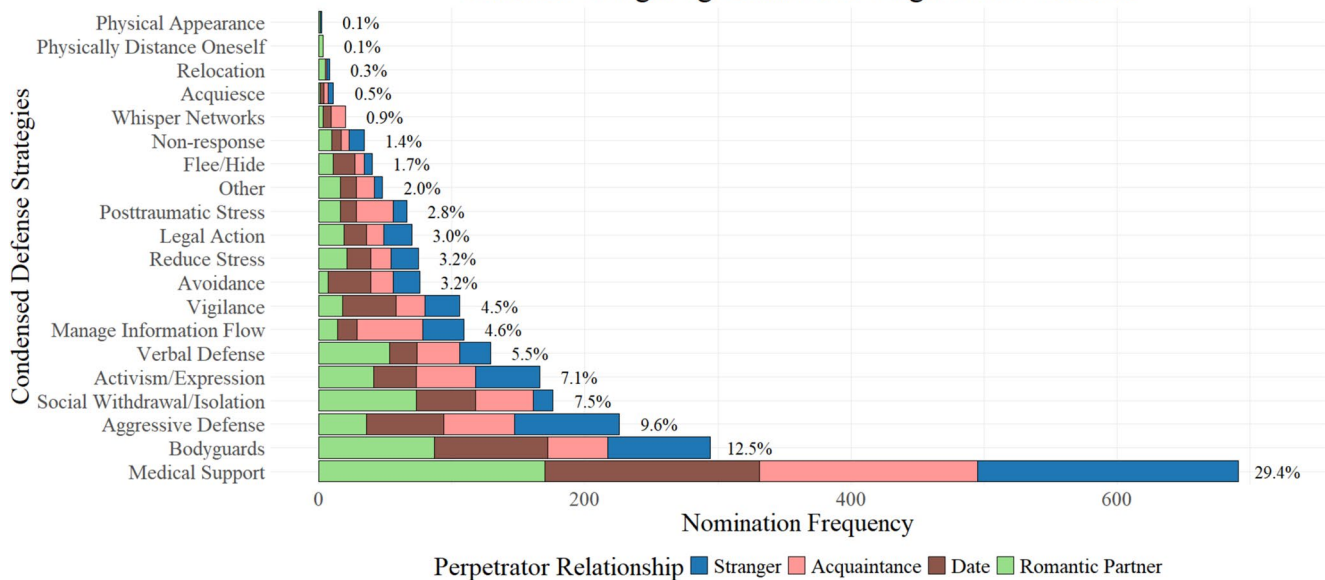


Fig. 3 Figure displays frequency of nominated defenses across condensed categories in the *Aftermath* condition of Study 2. The percentage at the end of each bar represents the total proportion of nominations

appearance to appear sexually unavailable ($n=2$; 0.08%). “Other” ($n=48$) and “non-response” ($n=34$) categories represented 3.49% of participants’ spontaneous nominations.

Differences in Defenses as a Function of the Perpetrator-Victim Relationship

To determine if women spontaneously nominated defenses at different rates as a function of the relationship between perpetrator and participant, we ran a Poisson regression. There was a statistical interaction between perpetrator relationship and defense category nominated, $\chi^2(50)=194.87$, $p < .001$. Table 4 contains pairwise comparisons with p -values adjusted for multiple comparisons. We examine some defenses here; however, we fully explored the pairwise comparisons across perpetrators in the [supplemental materials](#).

Only eight defenses functioning to reduce costs following completed sexual assault statistically varied as a function of perpetrator-victim relationship. Participants were less likely to nominate bodyguards in response to acquaintances ($n=45$) compared to strangers ($n=77$, $p_{adj} = 0.025$), dates ($n=85$, $p_{adj} = 0.003$), and romantic partners ($n=87$, $p_{adj} = 0.002$). There were no other statistical differences in use of bodyguards, $ps_{adj} > 0.999$. Participants were less likely to nominate aggressive defenses in response to romantic partners ($n=36$) compared to strangers ($n=79$, $p_{adj} = 0.001$). All other comparisons were not statistically significant, $ps_{adj} > 0.148$. Women were more likely to nominate social withdrawal following hypothetical assaults perpetrated by

represented by said category collapsed across perpetrator relationship. The proportion of nominations from different hypothetical perpetrators are represented by stacked bars

strangers ($n=15$) compared to acquaintances ($n=43$, $p_{adj} = 0.003$), dates ($n=45$, $p_{adj} = 0.001$), and romantic partners ($n=73$, $p_{adj} < 0.001$). Women were statistically less likely to nominate social withdrawal following hypothetical assaults perpetrated by acquaintances compared to romantic partners, $p_{adj} = 0.035$. No other comparisons were statistically significant, $ps_{adj} > 0.064$. Participants were also more likely to nominate verbal defenses in response to romantic partners ($n=53$) compared to strangers ($n=23$, $p_{adj} = 0.005$) and dates ($n=21$, $p_{adj} = 0.002$). All other comparisons were not statistically significant, $ps_{adj} > 0.145$. Women nominated managing information flow more frequently in response to acquaintances ($n=49$) compared to dates ($n=15$, $p_{adj} < 0.001$) and romantic partners ($n=14$, $p_{adj} < 0.001$). No other comparisons were statistically significant, $ps_{adj} > 0.082$.

Participants were most likely to nominate increasing vigilance in response to hypothetical assaults perpetrated by dates ($n=40$) compared to romantic partners ($n=18$, $p_{adj} = 0.029$). There were no other statistical comparisons, $ps_{adj} > 0.145$. Participants were least likely to nominate avoiding romantic partners ($n=7$) compared to dates ($n=32$, $p_{adj} = 0.002$). No other comparisons were statistically significant, $ps_{adj} > 0.101$. Participants were more likely to nominate behavioral symptoms of posttraumatic stress in response to assaults perpetrated by acquaintances ($n=28$) compared to strangers ($n=10$, $p_{adj} = 0.031$). No other comparisons were statistically significant, $ps_{adj} > 0.085$.

Defenses nominated to mitigate the consequences of sexual assault that did not differ across perpetrator-victim relationship included seeking medical resources, engaging

Table 4 Study 2 pairwise comparisons of frequency of AFTERMATH defenses as a function of perpetrator relationship.

Category	Tactic	Relationship to perpetrator			
		Stranger	Acquaintance	Date	Romantic partner
Activism/Expression	Activism/Expression	48	45	32	41
Aggressive Defense	Carry a weapon	53_d	34	39_d	17_{ac}
	Physically Aggress	26	19	19	19
Bodyguards	Alert Bodyguard(s)	37	24_c	51_b	30
	Enlist Bodyguard(s)	40	21_d	34	57_b
Avoidance	Avoid Dangerous Locations	2	--	--	--
	Avoid areas at night/Unlit areas	2	--	--	--
	Avoid being alone/Avoid isolated areas	11_c	16	30_{ad}	7_c
	Avoid men	5	1	2	--
Vigilance	Increased vigilance	20	16	27	14
	Vigilance against unwanted intoxication	6	6	13	4
Manage Appearance	Manage appearance through clothing	1	--	--	1
Verbal Defense	Alarm Calling	20	13	9	10
	Assert Boundaries	2_{bd}	15_{ad}	8_d	38_{abc}
	Verbally Defend	1	4	4	5
Flee/Hide	Run/Find a safe space to hide	6	7	16	11
Acquiesce	Acquiesce	4	3	3	1
Legal Action	Collect evidence	11	8	10	10
	File report	10	5	7	9
Post Traumatic Stress	Emotional Suppression	3	6	3	10
	Avoid potential triggers of prior assault	7_b	22_{ad}	9	6_b
Manage Information Flow	Manage Information Flow	31	49_{cd}	15_b	14_b
Attempt to Relieve Stress	Self-Care	20	14	16	21
	Emotional escape through substance use	1	1	2	--
Medical Support	Physical health	101	88	86	78
	Mental health	95	76	75	92
Social Withdrawal/Isolation	Social Withdrawal /Isolate self	13	17	7	7
	Take a break from dating/sex	2_c	2_c	19_{ab}	8
	Dissolution of relationships	--	24_d	19_d	58_{bc}
Relocation	Permanently leave the area – including moving to another city	2	1	--	5
Whisper Networks	Gather information through social networks about perpetrator	--	11	6	3
Physically Distance Self	Increase space between self and perpetrator	--	--	--	3
Other	Other	6	14	12	16
	Non-Response	11	6	7	10

Table 4 indicates pairwise comparisons for the Poisson regression predicting defense frequencies as a function of perpetrator-participant relationship in the *Aftermath* condition. Cells with dashes were not nominated in these data. Interpretations of pairwise comparisons are in the [Supplemental Materials](#). Bolded lines indicate statistical pairwise comparisons. Subscripts indicate comparison targets with statistical differences within rows. All subscripts are Bonferroni-adjusted for multiple comparisons. a=compared to strangers; b=compared to acquaintances; c=compared to dates; d=compared to romantic partners

in activism, and expression, engaging in behaviors to reduce stress, taking legal action, creating whisper networks, fleeing, managing one's physical appearance, and seeking permanent relocation, $ps_{adj} > 0.05$.

Discussion

The current collection of studies provides a taxonomy of women's defenses against sexual violence, containing over 19 defense categories, encompassing 48 tactics and over 9,000 nominated behaviors (Table 1). These data address gaps in the existing literature by broadening our

understanding of how women protect themselves against specific perpetrators and substantially expand upon prior taxonomies of women's defenses. Importantly, many of these defenses have not been noted in previous studies. Taken together, they provide a more comprehensive preliminary taxonomy of defenses.

One noteworthy aspect of our data was the high frequency with which bodyguard-related behaviors were nominated. Wilson and Mesnick's (1997) original conception of the bodyguard hypothesis posited that women may value and seek romantic relationships with men, in part, because of the protection they may provide against sexual violence from others. In support of Wilson and Mesnick's

hypothesis, single women were twice as likely to experience sexual violence in the previous year compared to women who lived with their boyfriends or were married (Wilson & Mesnick, 1997). The original conception of the bodyguard hypothesis implies a women's bodyguards are limited to their romantic partners. Our results suggest women's bodyguards may be romantic partners, as originally suggested, but also same-sex friends, opposite-sex friends, and family members. These data support our previous theoretical expansion of the bodyguard hypothesis (Hahnel-Peters, 2023) and confirms women may use any social allies as bodyguards.

Our study refined existing conceptualizations of bodyguard behavior. We documented that social allies can provide protection in various ways, including “detering would-be sexual assaulters, physically intervening during an attempted assault, or seeking revenge against a perpetrator to deter future assaults” (Hahnel-Peters, 2023). Our findings highlight variation within bodyguard-related behaviors captured in previous work (e.g., McKibbin et al., 2009, 2011). Rather than simply *enlisting* bodyguards, our participants also nominated *alerting* bodyguards, such as letting their social allies know where they would be, when expected check-ins would happen, and instructions about next steps should check-ins fail. Another nuance captured by our paradigm included the use of *feigning* bodyguards. Participants described feigning bodyguards by lying to the potential perpetrator that others were expecting them. By further investigating women's use of this defense, we may inform specific interventions useful against sexual violence beyond simple bystander interventions.

A frequently nominated defense in our data included staying sober. Although prior research has included related behaviors (e.g., “avoid drinking alcohol in unfamiliar places;” McKibbin et al., 2009, p. 338), these behaviors are typically embedded within larger behavioral categories (e.g., “Avoid appearing sexually receptive;” McKibbin et al., 2009, p. 338.). Sexual violence often occurs in the context of using drugs or alcohol, sometimes intentionally supplied by perpetrators to victims (e.g., Kilpatrick et al., 2007; Lawyer et al., 2010; Lorenz & Ullman, 2016; Zinzow et al., 2010). Participants nominated staying sober most frequently in the context of acquaintance rape, indicating knowledge about when this defense may be most instrumental. Although the high rate of sexual exploitation of people under heavy influence of intoxicants may be historically novel, this response highlights the potential *flexibility* of a more generalized evolved cognitive mechanism for maintaining vigilance. If women had other means of maintaining vigilance in risky situation in our evolutionary past, the manifestation of *staying sober* may imply evolutionarily novel circumstances may be co-opting the cognitive mechanism.

Although these studies provide a broader taxonomy of women's potential defenses against sexual victimization, it does not identify which of these defenses are most successful in avoiding or interrupting sexual assaults – a logical next step in this research program, albeit an extremely difficult one. One could argue that the more frequently nominated defenses provide clues about which might be the most efficacious, although this inferential leap might not be warranted. For example, frequently used defenses may be those most readily available or the easiest to deploy; whereas less frequently used defenses could be difficult or highly costly to marshal, despite their high effectiveness if they can be accessed and afforded. Moreover, studying different defenses among real-life victims of sexual violence poses another formidable suite of logistical research difficulties. Finally, identifying which defenses are most effective against different perpetrators in different contexts renders this line of investigation extraordinarily complex. Despite these fraught and challenging difficulties, identifying the most and least efficacious defenses should be a top research priority. Preliminary research has made a start in this endeavor. Some studies, for example, document that women's immediate use of physically and verbally aggressive resistance strategies are more likely to avoid a completed rape than other defenses such as pleading (for review see Ullman, 1997, 2007).

Both the risks and consequences of sexual violence are context dependent. One specific context likely to influence the success of women's defenses includes the relationship between perpetrator and victim. Women's social ecologies, including relationship status and proximity to allies (McKibbin et al., 2011) and broader patterns of social support (Figueredo et al., 2001), appear to shape their defensive behaviors. Research on women's responses to sexual assault demonstrates that outcomes (e.g., psychological distress) vary across contexts, including differences in perpetrator relationships (Thornhill & Thornhill, 1990).

The importance of social relationships to humans complicates the value of using different defensive strategies. The physical and verbal resistance strategies successful against strangers—the most heavily studied perpetrator—are potentially more harmful to the victim when the perpetrator is known to the victim or is a social ally of the victim. Perpetrators known to the victim likely have a greater sense of how the victim will respond to threats, knowledge of victims' social status, and likely maintain a position in the victims' social network. Through this knowledge, perpetrators may use different tactics compared to strangers to coerce the victim into a situation where verbal or physical aggression poses potential social damage to the victim. Future studies should investigate how other aspects of potential perpetrators, such as their social standing and influence, may impact the defenses women use.

To describe an underexplored area of research, we explicitly asked about defenses to mitigate the costs of completed sexual victimization. The nominated defenses include using one's social allies as a form of emotional support; social withdrawal and isolation; and dissolving established relationships. These defenses were less perpetrator-specific compared to the anticipatory defenses nominated in Study 1. This could be due to various reasons. One hypothesis includes that defenses in the aftermath of sexual victimization may have experienced weaker selection due to the circumvention of mate choice already having been paid.

Implications and Conclusion

Despite great modern attention to the problem of sexual violence, we still have a limited understanding of women's defenses against it. The current study advances knowledge by providing a taxonomy of over 19 separate categories of defenses—including 48 tactics and over 9,000 spontaneously nominated behavioral tactics to avoid and mitigate costs following sexual violence from 563 women. Informed by both hypothesized (Buss, 2021) and spontaneously nominated defenses against specified perpetrators, our taxonomy offers a comprehensive and context-sensitive account of women's anticipatory, immediate response, and behavioral mitigation of risks and costs of sexual victimization.

Although provisional in nature and sure to be expanded and refined in various ways, our taxonomy highlights the breadth and variability of defense strategies, as well as a foundation for future research. Beyond theoretical contributions, our taxonomy also provides practical and educational value. We synthesized a diverse set of potential defense strategies into a single resource with which to present individuals, particularly young individuals with elevated risk of sexual victimization. The taxonomy may broaden the range of behaviors considered when navigating potentially dangerous situations. A comprehensive taxonomy also communicates the variety of behaviors women take to defend themselves against sexual violence. Increasing awareness surrounding these behaviors may foster empathy among others, including men, and improve the recognition of defensive cues and indicators of non-consent.

Supplementary Information The online version contains supplementary material available at <https://doi.org/10.1007/s40806-026-00492-4>.

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Author Contributions RHP and DB were both responsible for conceptualization. RHP performed and validated all data analyses and visualizations. RHP wrote the main manuscript text. DB reviewed and edited the manuscript text. DB supervised the project.

Data Availability All data can be found on our OSF project page: https://bit.ly/OSF_Defenses.

Declarations

Competing Interest The authors declare no competing interests.

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