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# Social cognition and interpersonal violence

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**Why do some people resort to violence while others in similar circumstances do not? Drawing on 99 in-depth interviews with men from high-violence Chicago neighborhoods who participated in a community violence intervention, we examine how past exposure to violence shapes the social cognitions that influence future involvement in violence—through the schemas and scripts people use to interpret social situations and guide behavior. We identify three specific social cognitions that respondents associated with violence: misconstruing ambiguous cues as threats, defaulting to a narrow set of behavioral responses, and attributing violent behavior to fixed personal traits rather than situational factors. Respondents reported that participation in the program's cognitive behavioral component shifted these social cognitions in ways they associated with reduced violence involvement. The consistency of these self-reports combined with the program's experimental impacts suggest the hypothesis that these specific social cognitions could play an important role in violence and may be modifiable through intervention.**

social cognition | violence | social psychology | inequality | sociology

Why do some people resort to violence while others do not? The disproportionate concentration of violence in low-income areas has led to a great deal of attention to the role played by structural conditions like economic deprivation (1). But those factors provide far from a complete explanation. Similarly poor places can vary enormously in their violence rates (2–5). Even within the lowest income, most violent neighborhoods, far from everyone is violent. Policy efforts to prevent violence would benefit from a better understanding of violent behavior.

In this study, we examine the role of social cognitions in contributing to violence—how people make sense of and navigate social interactions. The idea that social cognitions contribute to violence and other risky or antisocial behaviors is not new (4, 6–11). But too little is understood about which specific social cognitions contribute most to violent behavior, what factors help shape those social cognitions, and whether social cognitions can change.

We leverage in-depth interviews with 99 participants in a community violence intervention to examine how exposure to violence shapes the schemas and scripts that people draw on to make sense of their social environments and guide behavior. All respondents were current or past participants in a large-scale randomized controlled trial (RCT) of the Rapid Employment and Development Initiative Chicago (READI). The program was designed in response to growing evidence that targeted supports that focus on people's social cognitions could reduce violence among individuals at the highest risk (12, 13). READI offered subsidized jobs, intensive outreach, and 90-min cognitive behavioral "Control-Alt-Delete" (CAD) sessions 3 to 5 times a week, which were intended to help participants build awareness and intentional use of social cognition in high-stakes situations.

READI participants had high rates of violence exposure and interactions with the justice system. At baseline, 98% had previously been arrested and 35% had been shot (14). A RCT with N = 2,456 participants found that READI successfully identified and engaged individuals at high risk of gun violence, despite significant barriers to participation (14). The effect on the main preregistered outcome (an index of multiple measures of violence involvement) was not statistically significant, but a dollar-weighted index of outcomes that puts more weight on the outcomes that are most important to society was statistically significant, driven by a 65% reduction in arrests for shootings and homicides. READI participants were recruited through three pathways: street outreach workers, reentry from prison, and a predictive algorithm. READI was unequivocally effective for those recruited from the street outreach pathway and not from the algorithm pathway.

Our qualitative approach complements the READI RCT by surfacing potential mechanisms driving the measured effects. The intervention context enables us to extend theorizing about how changes in social cognition may relate to changes in violent behavior. To surface these mechanisms, our interviews emphasized questions relevant to social

## Significance

This study advances theories of violence by bridging sociology and social psychology to show how social cognitions shaped by past violence exposure persist and influence behavior in new contexts. By identifying specific social cognitions through qualitative analysis of a community violence intervention evaluated through a randomized controlled trial, we explore internal mechanisms that are difficult to measure quantitatively. Crucially, the mechanisms respondents associated with violence also appear to be modifiable. This has implications for desistance theory, suggesting that interventions targeting how people interpret situations may accelerate desistance from violence. Our framework offers testable hypotheses about cognitive mechanisms that future studies can examine, opening avenues for both research and violence prevention policy.

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cognition, not just social behavior. We used open-ended questions to increase the chance we could tap into relevant cognitive processes even without strong priors about what they might be. Drawing on interview approaches from psychology, such as asking "What was going through your mind when that happened?" (6), our approach prompted respondents to anchor their thoughts in specific moments, linking cognitive processes to concrete behaviors. Through this approach, we identify three specific social cognitions that respondents described as highly associated with violence involvement and reported to be modifiable, though we cannot establish causal relationships from our interview data alone.

First, our interviews suggest that violence often seems to stem from people misconstruing different aspects of interpersonal interactions, such as the nature of the situation or the other person's intent. For men growing up in high-violence neighborhoods, past experiences seem to have conditioned them to anticipate the potential for interpersonal conflict and violence in present-day interactions. This creates the risk of self-fulfilling prophecies where the expectation of violence makes violence more likely.

Second, participants reported that in situations where violence was possible, they considered an overly narrow set of response options. This narrowing often arose from automatic, habitual patterns of thought formed through repeated exposure to high-threat environments, where quick, aggressive responses were frequently modeled or rewarded, though (as many would come to recognize in READI) they were hardly without their costs. This increases the risk of violent encounters where both parties might have preferred a different outcome in hindsight.

Third, participants frequently interpreted violent behavior as a reflection of who others and even themselves were, not how they responded to threatening situations. Participants often adopted identities as "violent people" that made future violence more likely. This is a version of the "fundamental attribution error" (15, 16), which especially in Western societies leads people to overattribute behavior to features of the person rather than the situation. We find that in high-violence neighborhoods, this leads people to become overly negative about the moral character of others and themselves in ways that make future violence more likely.

Building on this last observation, many participants described how READI participation changed these key social cognitions, and how those changes (in the view of respondents) contributed to instances of averted violence. While our interviews cannot prove cause-and-effect by themselves, the consistency of these self-reports among our respondents combined with the READI RCT results suggest the hypothesis that these social cognitions may have an important association with violence, are not immutable, and are potentially modifiable through intervention.

## Previous Research and Conceptual Framework

While structural conditions like poverty and segregation shape opportunities and constrain behavior (1), they do not fully determine it—that is, structural theories are not complete in the sense that there is much variation in the outcome they cannot account for (17, 18). What, then, accounts for this excess variability in violent behavior?

A growing body of research suggests a possible role for variability across people in their social cognitions, or how people make sense of and navigate their social environments. For example, Sharkey (7) develops the idea of "street efficacy," defined as the real or perceived ability of individuals to navigate their neighborhood environments safely. Using data from the Project on Human Development in Chicago Neighborhoods (PHDCN), Sharkey (7) shows how neighborhood-level factors, such as collective efficacy, shape street efficacy. Unfortunately, as Sharkey notes, the PHDCN was not designed to illuminate what the specific social cognitions are that facilitate or impede street efficacy (7).

Previous research gives us a general sense for how social cognitions are organized in people's minds. A longstanding psychological concept, "schemas," has been used to describe how people make sense of social situations. Schemas—internalized cognitive structures that operate as automatic mental representations—are acquired through socialization and function unconsciously (19–25). In sociology, "frames" are a "lens through which one interprets events," understands "how the world works," and "therefore impacts how one reacts" (8). "Scripts," a concept used in both psychology and sociology, provide behavioral templates that specify appropriate sequences of action in familiar situations (8, 26–28). Together, these concepts illuminate how "social structures exist simultaneously through mental representations and in concrete social relations," (19) suggesting that past environmental exposures become embodied in automatic cognitive processes.

How might these cognitive structures shape violent behavior? Beck (6) offers a discussion from the perspective of clinical psychology, arguing that most violent offenders construe events in a way that makes them the one who is "in the right" (in their own minds) in a given conflict (6, 9, 10). But the specific social cognitions that lead people to that inference and help drive violence remain opaque, especially with respect to the sort of gun violence that accounts for most of the social cost of crime in American cities (29).

To build on this literature, we draw on in-depth qualitative interviews with 99 participants of READI Chicago, a community violence intervention that combined a subsidized work program with intensive cognitive behavioral sessions ("Control-alt-delete" or CAD) focused on helping people recognize and modify social-cognitive processes. The CAD curriculum* is organized into four segments: 1) identifying core challenges, including understanding and modifying responses to stress and trauma; 2) cognitive and behavioral skills; 3) positive masculinity, including discussions of domestic violence; and 4) change and resilience, including life planning and coping strategies. The segment on cognitive and behavioral skills includes specific lessons on misconstrual, including how people can misunderstand situations, how others may see things differently, and limitations of "mind reading." The curriculum also helps participants expand their set of considered response options in tense situations and think through consequences of different choices.

READI provides a rare opportunity to explore and better understand the internal mechanisms that lead to violence. Partly this is because the study sample is at exceptionally elevated risk of violence involvement. Also, while subconscious cognitions are not usually directly accessible, participants' engagement in reflective practices through READI helps them build awareness of the "inputs" and "outputs" of their cognitive processes, and describe them to us. Hence, RCT evidence on READI serves as the backdrop to this study. The preregistered primary outcome was an equal-weighted standardized index of three outcomes: i) shooting and homicide victimizations; ii) shooting and homicide arrests; and iii) arrests for violent crimes like aggravated assault or battery, or robbery. The point estimate for the effects of treatment on the treated (TOT) was in the direction of less violence, equal to −0.049 SD, but was somewhat imprecisely estimated and so not statistically significant under the usual frequentist hypothesis testing framework ($P = 0.26$).

*For the first few years of READI, CAD was using the University of Cincinnati curriculum and then created its own that was more tailored to the participants.

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However, a dollar-weighted index of these outcomes, that weights each outcome proportional to its social harm, is statistically significant ($P = 0.03$). Moreover, the magnitude is large, with benefits per person ranging from $182,000 to $916,000. The dollar-weighted index is driven by a proportionately large (65%) reduction in arrests for shootings and homicides. That outcome has a high social cost and a high base rate for this population; there were 2.2 fewer shooting and homicide arrests for every 100 READI participants. By comparison, the Chicago homicide rate is on the order of 2 per 10,000 city residents.

READI was a bundled intervention, so the RCT itself cannot definitively isolate the relative importance of the different program components. But several strands of evidence suggest the hypothesis that CAD may have been the primary active ingredient. First, while the program's architects saw the program as a "rapid employment" program, as is evident in the program's name, 70% of respondents told our interviewers that they saw the program not primarily as a job program, but as an opportunity for personal growth. Second, previous studies suggest that jobs programs, the other component of READI, do not seem to reduce rates of violence involvement (4, 5). Third, Ludwig's (4) review of other RCTs that target social cognition (but do not include subsidized jobs) finds declines in violence and weapons arrests as large as 50% (4, 12–14). But RCTs tend to be more useful for measuring impacts on outcomes than isolating specific underlying causal mechanisms (30, 31). Our qualitative interviews with READI participants help illuminate the mechanisms underlying these quantitative findings.

## Results

Through inductive analysis of participant narratives, we identify three social cognitions that our respondents reported as both highly salient to violence and amenable to change.

**Misconstrual.** Our participants indicated that a great deal of violence stems from misconstruing an aspect of interpersonal interaction. A common psychological mechanism that respondents identified as contributing to violence was the tendency to misinterpret ambiguous cues as hostile, a pattern of cognition developed in response to past experiences.

Sidney, 27, a former participant, told us how past experiences of violence and being bullied shaped his default construals. At a young age, Sidney's brother was shot, which became a source of grief he continued to carry. As a teenager, Sidney was repeatedly bullied because he was larger than other kids his age. "I just ain't like people picking on me," he said, "I just started standing up for myself." After being jumped in high school, Sidney developed what he called a "f**k you attitude." That logic solidified after he was shot seven times in 2018. After that, he said that his main priority was "protecting myself by any means necessary," he explained, "If I feel like you gonna hurt me, I'm gonna hurt you first."

Tim, 30, a past participant, traced his reactive worldview to a formative trauma. At 17, he was shot and nearly killed. "I was young in the streets, so I was always an impulsive person," Tim recalled, "But it got really bad after [I was shot]. I felt like the world was against me. So it was like, if you approach me a certain type of way and if you wasn't a person I was with on a daily basis, I felt like you was my enemy." Even casual remarks became charged. Tim told us, "'Before the incident, I'll be like, 'Man, whatever.' But now it's like, 'Man, what you mean by that? You saying that you want to fight me? You saying that you going to shoot me?'"

Past experiences of violence create threat-oriented schemas that operate below conscious awareness, automatically categorizing ambiguous social cues as potentially dangerous (6, 32). Nuke, 24, a past participant, said that even a stranger looking at him for too long could escalate into a confrontation. "Sometimes…I'll react," Nuke explained, "Like, 'Man, what the f**k is you looking at?'" The danger participants perceived was not imagined. Many had lost loved ones to gun violence or experienced it firsthand. But this attunement, an evolutionary bias toward detecting negative cues, could also lead to overreading danger in everyday situations. Because our brains cannot attend to everything at once, they have been evolutionarily adapted to prioritize potential threats. As a result, negative cues capture attention more readily than positive ones (33–35).

The focus on others' negative emotions was especially pronounced among participants who had survived gun violence, as their experiences keenly attuned them to signs of potential threat. Inch, 28, a current participant who had been shot in the back before joining READI, explained, "[Getting shot] made me a worser person far as trusting people right now. I'm thinking everybody trying to kill me." The shooting left Inch physically injured but also psychologically altered, as the experience reinforced the sense that harm could come from anywhere, at any time. As Inch put it, "I don't care who you is, if you not my people, I'm on edge."

Why do we think these kinds of situational misconstruals may be relevant for violence? Because participants themselves described how changes in their social cognitions brought about through READI reduced their likelihood of future violence. Skeet, 44, a current participant, was a former drug dealer who (by his own account) had a nasty temper. He said that he would flare up at "anything I felt was disrespect. Even if it wasn't disrespect.… You could be over there laughing and just happen to look at me." When Skeet perceived someone to be disrespectful, he would say to them, "'Hey you think it's a joke or something?' Just that quick. That's the bulls**t that happen." Skeet learned to recognize the potential for misconstrual in these violent events.

One of the specific ways READI participants learned to reinterpret misconstruals was by considering the other person's perspective. This practice helped counteract egocentric construal, or the tendency to interpret others' actions as personally directed at them, which contributed to violent confrontations. In some CAD sessions, participants would devise real-life scenarios as a group and role-play, practicing how to step outside their own point of view and imagine what the other person might be thinking or feeling. TY, 20, a current participant, experienced abandonment, violence, and profound loss from an early age. "I ain't never had the love at home, so I turned to the street," he explained. After being removed by the Department of Children and Family Services, he was raised by his grandmother. By adolescence, TY had learned to survive on his own, "I ain't feel like nobody love me. So, I start doing everything possible. Mobbing everything. Stealing everything. Hijacks, going to high speed, I didn't care. I had to feed myself." The year before joining READI, TY's life unraveled further when his grandmother died of COVID and, at her funeral, his brother was shot and killed.

In READI, TY began to reassess how he responded to provocations. One role play session stood out: "Somebody walk past you and call you a b***h, what do you do in that situation?" TY's response reflected a clear shift in perspective. Rather than reacting automatically, he considered alternative interpretations: "I ain't got no right to cause hurt to another person [if] this person ain't do nothing to me. If he just called me a B [when] he just walked past me. He ain't touch me. He ain't hit me. He only just called

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me a B. He probably having a bad day. He probably just got into it with his wife. You don't know what's wrong."

Prince, 26, a past participant, was frequently stopped and searched by police. In the past, he said, these encounters triggered immediate rage. He recalled, "The younger me would've exploded to the point where it wouldn't have been no coming back from that because I don't like that. You're grabbing me, searching my pockets, I don't like that." Over time, however, Prince began to adopt a more reflective stance due in part to lessons he had learned at READI. While still critical of police overreach—"they overdo their jobs sometimes because of their authority"—he had also come to acknowledge the pressures the police face in their work. Prince said, "I'm not saying their job is easy because I know how it is. You never know what you're going to deal with when you come to a call."

Another way participants redirected their misconstruals was by learning to slow down in tense situations and consider the broader context. Calvin, 24, a past participant, lost his brother and several close friends to gun violence, leaving him grief-stricken and quick to anger. He described a moment someone provoked him: "Somebody irritated me bad in like four seconds. It was quick. He irritated me and I wanted to fight, I ain't going to lie." Through CAD, Calvin said he learned to pause and assess the situation he was in. He learned to "think about what's going on. Try to see… what the real problem is." Calvin said he now reminds himself, "You never know how nobody going to wake up and feel.… Everybody grieve different."

Keith, 24, a past participant, watched his mother "get beat on every day" as a child. Keith found himself replicating those patterns in his own adult relationships. In one argument with his girlfriend over how to season chicken, he began to escalate and then realized, "What we arguing about is really dumb.… We end up arguing but it wasn't worth it." Keith used a strategy he had internalized from CAD: "Take 10 deep breaths, pace back and forth, or clear your mind." He then considered his girlfriend's perspective, "I had to think…, 'you probably seen your mama cook something different than I seen my mama cook something different.'" "It really helps you think outside the box," Keith said, "Because you'll be looking at something one way but…you could be in the wrong."

Alongside efforts to apply more deliberate reasoning, respondents described learning to become attuned to the emotional and physiological cues triggered by their automatic responses. Even when the underlying thoughts weren't fully conscious, they learned to recognize feelings like anger or tension as warning signs, using these signals to pause, reassess, and avoid automatically responding with violence. Big Dude, 38, a current participant, told us, "Growing up, we moving too fast.… A lot of stuff that I went through, but I never could find the right words to say what it is." READI helped interrupt automatic cycles by teaching him and his fellow participants how to name and recognize their emotional states. Big Dude said plainly, "Now I break it down: 'Why you feeling like that?'" He described how physiological cues that signal stress, including sweaty palms, pacing, going silent, used to go unnoticed. In CAD he learned to link these cues to specific emotions: "Everything I ever went through, it got a name to it." Larry, 31, a current participant, echoed this insight, "Far as articulating the things that's…going on inside of my body and how I'm feeling, that's what I'm really learning."

Research from social psychology has found that this practice of affect labeling interrupts automatic responses by drawing attention to emotion itself and engaging slower, more deliberate cognition. Naming emotions reduces amygdala activity (associated with threat perception) and activates brain regions linked to regulation and perspective-taking (36). Learning to notice and articulate their stress responses allowed participants to reinterpret bodily cues and emotional surges not as objective indicators of immediate threats, but as signals of some internal processes whose outputs could be understood and interrogated.

We are not arguing that these cognitive responses are irrational or pathological. Indeed, they reflect adaptations conditioned by past exposure to seriously dangerous environments where threat-oriented schemas can be lifesaving. However, even adaptive schemas and frames can be overgeneralized, leading to misconstruals of social situations that can have extreme consequences, such as lethal violence. We are also not arguing that READI causally induced all of these changes in social cognitions, even if the respondents make that cause-and-effect link in their own minds. It is possible that some of these changes may have happened as a natural result of experience and maturation. But the fact that respondents described changes in their social cognitions suggests social cognitions are malleable, and the fact that they often attributed these changes to READI at least suggests the hypothesis READI may have played some causal role.

**Narrow Response Options.** Another cognitive tendency shaping participants' engagement with violence was the inclination to draw from an overly narrow range of response options in tense interactions. These responses often reflected patterned ways of reacting that had been reinforced over time, particularly in environments marked by elevated levels of violence. This narrowing can be adaptive in high-risk contexts, where deliberation may be costly and rapid decision-making is necessary (37). But that often-useful tendency can also make conflict more likely.

Kobe, 24, a past participant, recalled the intensity of his reactions in the period following his release from prison, a context in which the threat of violence is constant and a reputation for violence can deter potential threats (38, 39). "I was walking around like a ticking time bomb," Kobe said, "Soon as somebody did anything, I'm whooping them like I'm they daddy." In one incident, when an older man exposed himself on the block in front of children, Kobe told us he interpreted it as a direct insult to his family: "So basically what you're telling me is, 'F**k my baby mama, f**k my kids.'" He responded immediately and violently, punching the man until others pulled him off. "I wasn't thinking about everybody. I was really just thinking about my baby mama and my kid," he explained. In retrospect, Kobe recognized that his response emerged from a well-worn cognitive pattern of anger, confrontation, and resolution through violence.

The impulse Kobe described is consistent with the idea that our brains evolved to limit the range of options we consider when under pressure. This narrowing can reflect the operation of scripts, the behavioral templates that specify appropriate sequences of action in familiar situations (26–28). These scripts, while providing efficient behavioral guidelines, can become problematic when overgeneralized to contexts where alternative responses might be more effective. In social psychology, this prefiltered thinking is called choice architecture, where the set of options someone sees is conditioned by the structure of prior experience (40). These tendencies can help explain why so many of our respondents reported that even minor provocations could sometimes be enough to trigger this escalated chain reaction.

These behavioral scripts are often established early in life, as childhood experiences shape what comes to seem like a normal or available response. Tony, 41, a past participant, recalled frequently witnessing domestic violence as a child. He told us, "I was seven or eight years old, and [my mother and my father] had another in a series of physical altercations. And I went in the room

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and my mother was crying, but her whole face was covered in blood and swollen, and I asked her… 'Why are you still with him…?' And she said, 'That's your father and I love him….' In my mind, I'm being honest, I equated physical abuse with love.… I was out here physically abusing somebody's sister…, doing it because of what I watched my father do to my mother."

In moments of intense emotion, scripts can activate automatically, bypassing reflection and making certain responses feel inevitable rather than chosen. King, 26, a current participant, learned that a close friend had been killed the day before our interview. His instinctual response was immediate and familiar. He said, "I just wanted my get back. Just how they're making my people suffer and cry, his mother [should] cry. I want them to feel the same way too. But worser." In that initial moment, King's thought process narrowed to a single option: revenge.

King admitted that if it had not been for READI, he would have likely gone through with the retaliation. He even went so far as preparing his gun for attack. He said, "I filled my clip up.… But instead, I sat right there and just calmed myself down." King sat with his emotions and found another way of coping: "So I got high and I sat right there and just calmed myself down. I shed a couple of tears for my boy and said everything going to be all right." This kind of shift from automatic reaction to intentional pause was not something King claimed to have practiced before entering READI. Instead, through the program he learned to recognize the value in choosing not to act. "Why I go try to waste my life for nothing?" he asked. "That's not me no more.… That ain't going to make me feel better," King added, "It is going to make me feel better for a moment, for the day or two, but at the end of the day, it ain't bringing him back."

Participants often entered READI with a narrow set of perceived options in moments of threat or pain. A focus of many CAD sessions was to help participants see that other viable responses existed. As King stated, sometimes coping just meant doing what was necessary to stay still: "Go let some tears out…, go use a stress relief ball…, whatever the case might be." The smallest disruption to a reactive script—whether pausing to breathe or even choosing to "get high"—marked the start of a shift in how participants navigated high-stakes emotional moments.

Tony said CAD taught him that there is "more than one way" to solve his problems. He found it useful to roleplay scenarios and come up with alternative responses. He explained, "Acting out things is showing you [there] is more than one way to solve [a] problem." Others described this transformation as learning to count the consequences. "In the past, when I used to get mad, I used to just go off," said Big Dude, 38, a current participant, "I don't think. That led me in a lot of situations that I didn't even have to put myself in." When he thought back on the events that led to his gun charge, he reflected, "I didn't have to pick that gun up. I could have walked [away]."

Over time, small practices embedded these lessons into new default behaviors. Kobe described his former tendency to lash out: "If you said something, I was going to touch you or tap you or get on your ass." After READI, though, he learned to pause: "But now [I] just don't care for it. I think before I act." Kobe, reflecting on the CAD roleplay exercise in which he was bumped outside a store, laid out his thinking: "I could whoop one of they ass and one of them could shoot me…or I could just walk. I could ask him, did he mean to do it?" Similarly, Larry, 31, a current participant, reflecting on a tense moment with his son's mother, who was criticizing him, reminded himself, "It's just words.… I don't have to take action." Calvin, 24, a past participant, described being irritated during a tense interaction on his block: "I wanted to fight," he said. "But…the situation wasn't big enough for it. So I'm just like, I got to calm down, calm myself down and not make this worse than what it is." Keith, 24, a past participant, applied the same logic in a fight with his girlfriend: "Pay attention to what they teach you [in READI]," he said, "Take 10 deep breaths, pace back and forth…, you might see things differently."

Participants also shared mantras or mental cues that helped them interrupt automatic reactions and consider alternative responses. After losing a close friend, King told us he repeated to himself, "Everything going to be all right," to resist the pull of retaliation. Recall that Calvin used a quick internal check to evaluate whether escalation was warranted: "The situation wasn't big enough for it." Larry, during a heated exchange with his son's mother, reminded himself, "It's just words." Tune, 30, a past participant, described relying on a refrain, "It only takes 3 seconds to ruin your life," to slow himself down in heated moments. Jay-Z, 19, a past participant, used a simple recurring mantra: "Just be positive." These expressions were not elaborate cognitive strategies, but their simplicity made them repeatable and effective in emotionally charged contexts, situations that respondents said previously felt beyond their control.

In sum, many participants entered READI having rehearsed (often subconsciously) the same scripts for dealing with conflict. What they had rarely done, they said, was pause. It was this space during the brief moment between stimulus and response that READI sought to create and helped mitigate engagement in violence as a way to resolve conflict. Respondents did indeed report experiencing change in their ability to do this, and to the extent that these retrospective accounts are a guide, some of which may be due to READI.

**Person-Based Attribution.** The third social cognition associated with involvement in violence concerns how people make sense of behavior, including others' and their own. Many participants had come to see violent actions as proof that others, and even themselves, were violent people. This assumption created a cognitive framework that made violence more likely. Through CAD, however, respondents reported learning to recognize situational factors that had previously been invisible to them. This shift from person-based to situation-based attribution appeared to open new pathways away from violence.

Recall how TY, 20, a current participant, learned from one role play session in CAD. Rather than react automatically to a person walking past him who insulted him, TY instead considered that this person might have been having a bad day. Similarly, Prince, 26, a past participant who once led a neighborhood crew, told us that READI helped him understand the situational influences on others such as the pain underlying people's actions. Prince told us, "Hurt people hurt people.… So certain people react different in their environment because of the things they went through." For Prince, "CAD's breaking the ice was getting us all together learning each other." This helped Prince see his former rivals as people who had similar experiences to him, instead of viewing them as bad people.

Rick, 44, a current participant, also learned that "what you're seeing and getting from a person is not really what's going on beneath the surface and what led them to that.… READI kind of crystallized those things...." Skeet, 44, a current participant, told us a story of this playing out at READI. He noticed other participants mocking a fellow participant, Digby, whose behavior struck many as off-putting. "I've been seeing people picking on Digby a lot," Skeet said, "And I've been quiet about it but I say if the facilitator don't say nothing about it by next week, I'm going to address it." At first, Digby rubbed him the wrong way, too: "He still has that pimp thought mentality, like he's been taught by somebody that was in the actual pimp gang and he trying to use

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that knowledge into other situations and it don't fit, and it makes him seem more predatory." But over time, he began to see Digby's behavior differently, not as evidence of his character or intentions, but as the product of his experiences. Skeet stated, "This is just the way he was taught. And he only know what he was taught until he's taught something different."

This pattern applied to how participants interpreted others' actions as well as how they made sense of themselves. The fundamental attribution error (particularly in affluent Western societies) tends to lead people to blame the deleterious behavior of others on bad moral character rather than on the situation. At the same time, people are often more aware of the situational influences on their own behavior and therefore more prone to excuse their own bad behavior relative to others. But our interviews suggest the attribution of one's own behavior is more complicated in the extremely disadvantaged communities in which our respondents live. Many respondents described that before READI, they had come to view themselves not simply as "individuals who had done bad things," but as "bad people." This internalized sense of a violent identity winds up making violence more likely, by their own accounts.

This came up as a common theme across our interviews. For example, as Brandon, 36, a current participant, described, "It's like the goodness left me.… That's when the destructive side started." William, 29, a current participant, had lost 11 close friends to gun violence. He described how these losses had shaped his self-conception. He told us, "I ain't been a civilian since I was like eight…. To sleep at night [with what I've done] you got to be a different type of monster.… A monster can lie and wait and literally sit and wait for his opportunity [for revenge]." It was the death of his best friend, however, that pushed him over the edge. In response to this event, William said, "I bought guns, a lot of them.… I wasn't going to feel safe until somebody was dead." William came to see revenge not just as something he would do, but as something he was: "When I say I was on demon time, I wasn't going to sleep.… I'm sitting outside [my rivals'] houses…, your mama come out that front door, we [say] 'call your son tell him to come out.'" William explained, "To put that bet on somebody else, you got to be a cold-hearted motherf**ker. Melatonin can't even help you sleep after that."

Terrel, 29, a current participant, recounted a traumatic childhood, including 5 y without his mother who was incarcerated, running away from home, joining a gang, and being shot—all before graduating from 8th grade. He fell into gang life and violence, which he said compounded layers of grief from repeated losses, beginning with the death of his little sister in a house fire when he was young. "I was an angry ass little kid," Terrel recalled, "I was angry because my momma was gone.… My little sister dead. I was always thinking about my little sister burning.… Everything I got is gone, so I'm angry." Terrel described how his anger drove him to the streets. He said, "I started selling drugs, and I tried to stay away from the crib because my auntie was an [alcoholic]." At one point, Terrel believed these circumstances reflected his lack of basic goodness. "People be like, 'Man, Terrel, you cool and s**t. You smile all day.' I'm really just covering up [what's inside] with that smile." But the internalization ran deep. "I been f**king up the community for years," he told us, "How the f**k am I good?"

What evidence suggests that these forms of social cognition contribute to violence? Participants themselves described how involvement in READI shifted these patterns of thinking and how those cognitive shifts, in turn, altered their likelihood of engaging in violence. Many recounted a time when they made little distinction between what they had done and who they were, interpreting past behaviors as reflections of fixed, violent identities.

Through CAD, some participants came to view their past actions not as reflections of their character but as responses to situations they did not yet know how to handle. Jaysean, 22, a current participant, once believed he was a bad person because of the violence he committed. But in READI, he began to understand that what looked like aggression was actually desperation. "A lot of things that I did bad…I did it for survival," he said. "Cause I didn't really know no other way to get no money." He recalled seeking out older neighborhood robbers to teach him: "'Show me how to rob….' I was looking for the wrong help Bro. I didn't know no better." What he once saw as personal failure now appeared as structural abandonment. Jaysean told us, "I ain't had the…good role models.… So you a product of your environment to a certain extent." Through READI, Jaysean began to believe in the possibility of self-redefinition. "I'm a good person within," he recounted, "Now I'm progressing to be a better me and every day I'm learning new things.… I'm still falling down but I'm picking myself back up."

For Terrel, identifying the root of his trauma—his sister's unexpected death in the house fire—allowed him to understand more about how past experiences stuck with him. Through CAD, Terrel said, "I identified my trauma when my little sister died.… I never got through my first trauma." CAD helped him recognize that his behavior was in response to the extremely traumatic conditions he had experienced during his childhood and adolescence. Terrel realized, "How do I get over my little sister when I just lost [my friend], and I turn around and lose my brother. Then I turn around and lose my cousin. Then I turn around and lose [another friend]. Then I lose my [other] sister…from a brain aneurysm. Then I turn around and lose little dude [my nephew]. Then I turn around and lose [two more friends]. That s**t just f**ked me up to this day.… I'm suffering with PTSD bad.… People don't understand trauma. If you don't deal with it and get some help with the trauma that you dealt with or experienced younger, you can bring that baggage into your adult life and that can really affect your life."

William, too, came to reframe his identity. The rage that once made him describe himself as a "monster" no longer felt inevitable. "There was no need to be a monster," he said. "It wasn't no real threats." Looking ahead to his 30th birthday, William explained, "Why would I ever be doing the same s**t that I was doing?" For William, changing meant challenging deep emotional patterns: "I didn't speak on my feelings.… I used to just search for acceptance [through the streets], but then I started finding myself." He found other outlets, "We ain't got to go get no guns…, we go boxing a lot."

Others reflected on how at one time, street logic had become internalized as their worldview, but that it could be undone. Sean, 31, a current participant, explained how violence had come to feel normal, and that even though this was adaptive it was not necessarily good. He told us, "It's normalized in our brains now because we've been through so much with these shootings, these killings, witnessing this stuff.… It's just normal." But through READI, he also became more aware of his choices. He still felt tempted to carry a gun at times but resisted. Sean realized, "If I get caught, they not going to free me…"

Social identity theory emphasizes the human tendency to seek a coherent sense of self. But in the context of violence, identity is often constructed not through aspiration but through interpretation: "I did this, so I must be this." But this social cognition can be changed with conscious effort. By coming to see their past violence as shaped by circumstances rather than as evidence of fixed personal flaws, some were able to extend empathy to themselves and to others and take steps toward desistance.

**Frequency and Co-Occurrences of Social Cognitions.** Table 1 presents the prevalence of each social cognition and associated codes among our 99 respondents. All three core social cognitions were

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**Table 1. Prevalence of social cognitions and related codes (N = 99)**

| Social cognition category | Specific code | % of respondents |
|---|---|---|
| **Misconstrual** | | **73%** |
| | Cognitive distortion: R describes seeing the world through a frame that he later corrects | 16% |
| | Dichotomous thinking: R describes situations, people, or experiences in extreme, binary categories with no middle ground | 16% |
| | Reframing a situation: R tells a story of an initial reaction/feeling/thought and then a reframing of it that happened in that moment | 37% |
| | Perspective taking: R retells a story and imagines the other person's perspective/reason for acting | 37% |
| | Focusing on the positive: R focuses on the good event over the many bad ones | 34% |
| **Narrow response options** | | **75%** |
| | Tit-for-tat thinking: R describes responding/acting in certain way for revenge | 24% |
| | Impulsivity: R mentions acting quickly, without thinking first | 27% |
| | Considering consequences: R retells a story and discusses thinking about the consequences of actions before acting; if A then B | 45% |
| | Mantra: A repeated phrase or belief that R uses to guide behavior or thinking; may act as a self-regulation tool | 18% |
| | Option awareness: R describes thinking through several ways to respond, other than quick reaction | 39% |
| **Person-based attribution** | | **68%** |
| | Distrustful of people: R assumes negative intent in others and avoids new people | 32% |
| | Recognizing trauma and mental health: R demonstrates awareness of how trauma and mental health shape behavior in oneself/others | 41% |
| | Locus of control: R describes recognizing that barriers to success can be overcome vs. some are intractable roadblocks | 24% |

Note: Percentages represent the proportion of 99 respondents who exhibited each code at least once in their interview. The overall category percentages (bolded) indicate respondents who showed any code within that social cognition category. Respondents could exhibit multiple codes within and across categories.

common: misconstrual appeared in 73% of respondent reports, narrow response options in 75%, and person-based attribution in 68%. Each parent code encompassed both negative subcodes (capturing violence-related cognitions) and positive subcodes (capturing how respondents learned to modify these patterns). For example, among those showing misconstrual (n = 72), 37% also discussed reframing situations and perspective-taking, and 34% focused on positive interpretations.

Importantly, these three social cognitions frequently co-occurred within individuals. Table 2 shows the distribution of cognition combinations. This clustering is consistent with the theoretical literature on schemas and scripts, which suggests that cognitive patterns formed through repeated exposure to threatening environments operate as interconnected systems rather than isolated tendencies. A person who has learned to interpret ambiguous cues as threatening (misconstrual) may simultaneously develop a restricted set of rapid-response options (narrow responses) and come to view themselves as inherently violent rather than recognizing situational influences (person-based attribution).

Our analysis of the coding reveals important patterns about how these social cognitions operate. First, these cognitions are prevalent, appearing in roughly two-thirds to three-quarters of respondents, suggesting they are common features of how individuals who have been involved in violence make sense of their experiences. Second, these cognitions tend to cluster together within individuals, with nearly half of respondents exhibiting all three patterns and nearly two-thirds showing misconstrual alongside at least one other cognition. This clustering raises the possibility that these may be interconnected components of a general cognitive response to living in environments characterized by elevated violence risk.

## Discussion

Based on inductive coding of interviews with 99 men with past histories of violence, we demonstrate that past exposure to violence shapes the schemas and scripts that influence how people interpret and respond to the world. Our data suggest three specific social cognitions may be particularly important in instigating or avoiding violence. First, a great deal of violence may stem from people misconstruing aspects of interpersonal interactions. For men growing up in economically distressed neighborhoods, past experiences in prior contexts condition people to anticipate interpersonal conflict in present-day interactions, creating schemas and frames that make conflict more likely—similar to the hostile attribution bias documented among children (32). Second, participants described considering an overly narrow set of response options in situations where violence was possible, reflecting automatic scripts formed through repeated exposure to high-threat environments where aggressive responses were modeled or rewarded. Third, respondents reported interpreting the violent behavior of others, and even their own, as a reflection of who they are rather than as a reflection of situational influences, adopting identities as "violent people" that made future violence more likely. Our interviews also suggest these violence-related cognitions may be malleable.

This study brings together two disciplines that have long shared an interest in meaning-making but are rarely put into conversation: sociology and social psychology. Drawing on symbolic interactionist emphasis on interpretation in sociology (26, 41, 42), we examine not only how people navigate ambiguous social encounters but also how their default interpretations emerge from exposure to prior contexts. By combining these insights with the

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**Table 2. Co-occurrence of social cognitions (N = 99)**

| Misconstrual | Narrow response options | Person-based attribution | Percent of sample |
|---|---|---|---|
| √ | √ | √ | 48.19% |
| √ | √ | | 14.46% |
| | | | 8.43% |
| √ | | √ | 7.83% |
| | √ | | 7.23% |
| | | √ | 6.02% |
| | √ | √ | 5.42% |
| √ | | | 2.41% |

longstanding concepts of schemas and scripts in sociology and psychology (43–49), we suggest that the meanings people assign to social situations are often automatic, patterned, and below conscious awareness in ways that are highly salient to violence involvement and avoidance. Our findings build on Goffman's (41) insight that underlying every social interaction is a person asking, "What's going on here?" and that how people answer depends on how they organize past experiences. Previous research may have underestimated the importance of individual-level cognitive processes precisely because these processes are largely automatic. Measuring factors like neighborhood poverty or police per capita is much easier than measuring social cognitions, especially those that operate below conscious awareness.

Several limitations should be noted. First, our data come from retrospective interviews, which may be subject to recall bias and post hoc rationalization. Respondents may reconstruct their past thinking in light of present understanding. Second, while many participants attributed changes in their social cognitions to READI, we cannot definitively distinguish program effects from natural maturation, aging, or other life experiences that coincided with program participation. Third, our sample consists entirely of men who had been violence-involved and participated in READI; we cannot assess whether these social cognitions distinguish violent from nonviolent individuals in the same neighborhoods. Fourth, our qualitative approach can surface potential mechanisms but cannot establish causal relationships. These findings generate hypotheses that require testing through other methods.

This perspective has important implications for both theory and policy. Theoretically, it suggests that the traditional distinction between structure and agency may be less clear-cut than is typically assumed, as individual cognitive processes are themselves shaped by structural exposures over time. This aligns with Sampson and Laub's life-course theory of cumulative disadvantage, which suggests that early exposures to risk create conditions that increase the likelihood of continued exposure through negative feedback loops (50, 51). In this view, social cognitions may serve as a key mechanism through which past disadvantage becomes embedded in individuals' developmental trajectories and shapes responses to current circumstances.

Our findings also relate to the criminology literature on desistance from crime, which finds that desistance correlates with aging, employment, key life events like marriage, changes in social networks, and changes in self-perception or identity (52–56). Our study supports the theory that changes in social cognitions (57, 58) could be relevant mechanisms linking these life changes to desistance. Moreover, we leverage the design of in-depth interviews within a randomized controlled trial of a community violence intervention (14) that accelerated desistance to map out the specific cognitions that may be linked to measured reductions in violence involvement.

From a policy standpoint, our findings raise the possibility that interventions targeting social cognition could be particularly effective precisely because they address the cognitive mechanisms through which past exposure to disadvantaged contexts may continue to influence present behavior. While our study design is not capable of isolating causal relationships, many of our respondents themselves frequently associated changes in their social cognitions with participation in READI. To the extent to which respondents are correct and these cognitive processes are modifiable through intervention, this would offer hope that the cycle linking disadvantage to violence can be interrupted, even among those most deeply affected by structural inequalities.

## Materials and Methods

This study draws on semistructured in-depth qualitative interviews and observations with 99 Black and Hispanic men who were current or former participants in READI. Participants in our study ranged in age from 18 to 48, with an average age of 26. In addition to program observations, we interviewed 99 current and former READI recipients across all three program sites spanning the four focal READI neighborhoods. While 26% of Americans report experiencing physical violence in their lifetimes, 62% of our respondents, most still in their twenties and thirties, had already experienced it directly.

We recruited current participants on-site at program locations, once embedded in the program through observations and relationships with staff. To assess the durability of program effects over time, we also sought out former participants. To do so, we partnered with street outreach workers who had helped recruit participants into earlier READI cohorts and who had maintained long-standing relationships with many past participants. Although our sample is not random, it closely reflects the demographic characteristics and levels of violence involvement of program participants. Each participant received $50 for their time. We interviewed each participant in depth in 2022; our conversations anchored around the key question: "Tell me the story of your life." The interviews probed participants' lives before, during, and after the program. Interviews were designed to surface social cognitions by asking participants to walk us through specific events (especially those involving conflict or the potential for violence) and reflect on what they were thinking and feeling at the time. Interviews lasted 60 to 90 min and were held in participant-chosen locations.

Prior to fielding the study, a team of six interviewers participated in 2 wk of intensive training, facilitated by the study PIs. Throughout the field period, training was ongoing, facilitated by weekly meetings to ensure that the interviewers were consistent in approach. In these meetings, interviewers also shared interview techniques that helped elicit narratives. While interviewers were racially and ethnically diverse, all had attended an elite university either as undergraduates or as graduate students. All interviews were audio-recorded, transcribed verbatim, and coded using a codebook developed from both deductive categories informed by prior literature and inductive themes emerging from the data. Each transcript was coded independently by two researchers using MAXQDA. To ensure consistency, we used the software's intercoder agreement tool and maintained overlap scores above 75%. Coders met weekly to reconcile discrepancies and refine the coding protocol.

This study was approved by the Institutional Review Board at the University of Chicago (IRB22-0630) and at Princeton University (Protocol #14608). Written informed consent was obtained from all participants prior to interviews. Participants were informed of the voluntary nature of their participation and their right to skip any question or discontinue at any point. For the observation component of the study, a waiver of consent was granted, as the research involved no more than minimal risk. Participants in interviews provided consent for audio recording; those who declined were offered participation with notetaking only.

**Data, Materials, and Software Availability.** The qualitative interview data collected for this study are protected under a Certificate of Confidentiality (CC-OD-22-3214). The original consent form did not include provisions for data sharing or secondary use. Given the sensitivity of the subject matter and the risks identification would pose to subjects, we are unable to post deidentified transcripts

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publicly. Researchers who are interested in the data or in exploring possibilities for access should contact the corresponding author.

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