Psychotic Experiences in the Context of Police Victimization: Data From the Survey of Police–Public Encounters

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Social defeat has been proposed as the common mechanism underlying several well-replicated risk factors for sub-threshold psychotic experiences (PEs) identified in epidemiological research. Victimization by the police may likewise be socially defeating among vulnerable individuals and, therefore, may be associated with elevated risk for PEs. However, no prior studies have examined the relation between police victimization and PEs. We tested the hypothesis that exposure to police victimization (ie, physical, sexual, psychological, and neglect) would be associated with increased odds for PEs in the Survey of Police–Public Encounters data ($N = 1615$), a general population sample of adults from 4 US cities. Respondents who reported each type of police victimization were more likely to report PEs in logistic regression analyses (all $P < .01$), most of which were significant even when adjusting for demographic variables, psychological distress, and self-reported crime involvement (adjusted OR range: 1.30 to 7.16). Furthermore, the prevalence of PEs increased with greater exposure to police victimization in a linear dose-response relation, OR (95% CI) = 1.44 (1.24–1.66). These findings suggest that police victimization is a clinically important and previously unreported risk factor for PEs in the urban US population. These findings support the need for community-based outreach efforts and greater police training to reduce the prevalence of this exposure, particularly in socially disadvantaged urban communities.

Key words: police abuse/psychosis/social defeat/ victimization/schizophrenia/epidemiology

Introduction

The social defeat hypothesis proposes that risk for psychotic symptoms increases following long-term or repeated exposure to environmental stressors that are subjectively experienced as socially exclusionary or defeating.[1,2] Consistent with this hypothesis, there is now substantial evidence that a broad range of factors including urban upbringing, migration, and trauma exposure are associated with the development of schizophrenia.[3] Recently, epidemiological studies have used this model to understand the relatively common occurrence of subthreshold psychotic experiences (PEs), which include hallucination- and delusion-like experiences that resemble the symptoms of psychotic disorders but are typically of less intensity, persistence, or impairment,[4] yet still clinically notable as indicators of suicide risk,[5,6] psychiatric co-morbidity,[7,8] functional impairment,[9,10] and need for clinical treatment.[11,12] Therefore, understanding the social etiology of PEs is important given that they are clinically meaningful in and of themselves, and that they may be prognostic symptoms for the study of psychosis etiology in epidemiological data (although their value as independent predictors of subsequent schizophrenia onset is questionable).[13] Recent work has shown that PEs are associated with numerous potential social defeat exposures, including childhood trauma, urban upbringing, racial discrimination, migration, acculturative stress, neighborhood crime, and substance use.[14–20] Victimization by the police shares characteristics with these previously-studied factors but may be particularly impactful given the relative power the police have in society, which could lead victims of police victimization to feel powerless, distressed, and otherwise socially defeated. However, it has not yet has not been studied in relation to PE.

Police killings have recently received widespread media attention in the United States.[21] However, police victimization may have additional collateral effects on health and

mental health, beyond the immediate physical effects (ie, death, injury, or incarceration).[22] We recently showed in the Survey of Police–Public Encounters that police-initiated violence is widely reported across 4 US cities, and that it is associated with both psychological distress and depression,[23] as well as more severe mental health outcomes including suicide attempts.[24] Given that the prevalence of police violence in US cities appears to be comparable to other potential social defeat exposures and has known associations with mental health outcomes, it is reasonable to hypothesize that it may likewise be correlated with PEs in the general population.

In this study, we analyze the Survey of Police–Public Encounters data to test the hypothesis that exposures to domains of police violence (ie, physical, sexual, emotional, and neglect) are associated with self-reported PEs, and that this could be characterized as a dose-response relation (ie, increasing odds for PEs proportionate to greater exposure to police violence). We also assess whether these associations are explained by crime involvement and co-occurring psychological distress. Crime involvement was included to control for potential reverse causation, in which PEs (and associated psychological symptoms) may lead to criminal activity and, in turn, to police encounters. Psychological distress was included to adjust for potential recall biases in reporting victimization that may be associated with general mental health issues. Finally, we run exploratory tests for interactions to determine whether associations between police victimization and PEs are consistent across demographic groups. Taken together, this study provides an initial assessment of the nature of associations between police victimization and PEs, which to the best of our knowledge has not previously been explored.

Methods

Survey of Police–Public Encounters

The Survey of Police–Public Encounters is an internet-based general population survey study conducted in 4 US cities (Baltimore, New York, Philadelphia, and Washington, DC) from March through April, 2016. Data collection procedures and sample characteristics have been previously described in detail.[23] Briefly, the sample consisted of adult residents of each of the 4 cities of interest, and was approximately representative of each constituent city.[23] Of the 2355 that met inclusion criteria, 13.7% were excluded due to failing survey quality control checks and 17.7% voluntarily terminated participation prior to concluding the survey, leaving a final sample of $N = 1615$ (68.6% of eligible participants). Study procedures were approved by the Institutional Review Board of the University of Maryland, Baltimore.

Measures

Exposure Variables: Police Victimization. Exposure to police victimization was assessed using the Police Practices

Inventory (PPI), which has previously been demonstrated to have acceptable validity and test–retest reliability in this sample.[23] The PPI includes 5 binary items that separately assess lifetime exposure to each domain of violence identified by the World Health Organization (WHO): physical (without a weapon: has a police officer ever hit, punched, kicked, dragged, beat, or otherwise used physical force against you?; with a weapon: has a police officer ever used a gun, baton, taser, or other weapon against you?), sexual (has a police officer ever forced inappropriate sexual contact on you, including while conducting a body search in a public place?), psychological (has a police officer ever engaged in non-physical aggression towards you, including threatening, intimidating, stopping you without probable cause, or using slurs?), and neglect (have you ever called or summoned the police for assistance and the police either did not respond, responded too late, or responded inappropriately?). In addition, we added the binary indicators of police victimization to create a variable measuring the total number of sub-types of police victimization exposures for each respondent.

Outcome Variables: PEs. PEs were assessed using the 4-item self-report psychosis screen from the Composite International Diagnostic Interview (CIDI) 3.0, which has previously been used to capture psychometrically-defined PEs in major epidemiological studies including the WHO World Health Survey.[25] Each binary item assesses whether a particular PE occurred over the prior 12-month period. Items specifically assessed delusional mood ("a feeling something strange and unexplainable was going on that other people would find hard to believe?"), delusions of paranoia and persecution ("a feeling that people were to interested in you or that there was a plot to harm you?"), delusions of thought control ("a feeling that your thoughts were being directly interfered or controlled by another person, or your mind was being taken over by strange forces?") and hallucinations ("an experience of seeing visions or hearing voices that others could not see or hear when you were not half asleep, dreaming, or under the influence of alcohol or drugs?"). An additional variable was calculated to indicate the binary presence of any PE.

Potential Confounds. Additional variables used in this analysis consisted of demographic data, psychological distress, and a binary indicator of crime involvement. Demographic data included self-reported gender, age, race/ethnicity, sexual orientation, income, educational attainment, foreign birth, and city of residence. Crime involvement was analyzed as a binary variable indicating a positive response to any 1 of 4 items assessing (1) buying and selling of illegal substances, (2) use of heroin or other opiate drugs, (3) history of stealing, robbing, or burglary, and (4) history of assault or other violent actions towards another individual. Psychological distress was assessed

using the K-6, a 6-item assessment designed to be maximally discriminant for detecting clinical need based on hopelessness, worthlessness, nervousness, agitation, and depression.[26] We have previously shown that the K-6 scale has excellent internal consistency (Cronbach's α = .90) and test–retest reliability ($r_{n = 217}$) = .83, P < .001) and is associated with police victimization in this sample.[23]

Data Analysis. Associations between potential confounds (demographic, psychological distress, and crime involvement variables) and PEs were tested using chi-square analyses and t tests. Logistic regression models were run to test for associations between (1) each police victimization exposure and (2) each PE outcome, first without adjustment and then with full adjustment for all variables that were associated with PEs in bivariate analysis. Individual PE sub-types were examined as separate outcomes given that prior studies have shown symptom-specific effects of trauma and victimization,[27] although whether or not effects of victimization on psychosis are uniform or vary by PE sub-type remains an open question due to inconsistent findings.[28] Even though some past research has shown that victimization has rather uniform effects on psychiatric risk, regardless of victimization type,[29] we have opted to test each individual type of victimization due to prior research suggesting that other psychological outcomes (distress and depression) are variably related to different types of police encounters.[23] With sufficient power, this approach allows us to examine possible differential effects of various forms of police victimization. Mantel-Haenszel chi-square analyses were used to test for linear associations between the number of police victimization exposure sub-types reported and the prevalence of each type of PE. Separate logistic regression models with the inclusion of interaction terms were used to test whether the association between police victimization and PEs varied across gender, sexual orientation, or racial/ethnic groups.

Results

PEs were reported by 20.8% of the sample (n = 335). Respondents reporting PEs differed from those not reporting PEs in that they were less likely to be female, were younger, were more likely to be Black or Latino, involved in crime, were less likely to be heterosexual, and reported lower levels of income and education (table 1). K-6 psychological distress scores were higher among people reporting PEs, mean (SD) = 9.75 (5.75) vs 3.77 (4.44) among those without PEs, $t(df = 1608)$ = 20.54, P < .001. All types of police victimization were notably more prevalent among respondents that reported PEs (table 2). Associations between each domain of police victimization exposure and each PEs outcome were significant in the unadjusted models, with particularly high ORs for assaultive forms of victimization (ie, sexual and

physical with a weapon) (table 3). These associations were attenuated but generally still statistically significant when adjusted for demographic variables, psychological distress, and self-reported involvement in illegal activities (table 3). ORs remained particularly high, following adjustment, for the associations between sexual victimization and paranoia (OR = 7.15) and thought control (OR = 3.91), and between physical victimization with a weapon and hallucinations (OR = 6.50) (table 3). The prevalence of PEs increased linearly with increasing exposure to different forms of police victimization, Mantel-Haenszel $X^2_{(df = 1)}$ = 106.73, P < .001. This linear relation was also present for each individual PE sub-type, specifically delusional mood, Mantel-Haenszel $X^2_{(df = 1)}$ = 89.57, P < .001, delusions of paranoia and persecution, Mantel-Haenszel $X^2_{(df = 1)}$ = 126.04, P < .001, delusions of thought control, Mantel-Haenszel $X^2_{(df = 1)}$ = 51.86, P < .001, and hallucinations, Mantel-Haenszel $X^2_{(df = 1)}$ = 92.38, P < .001 (figure 1). The association between number of types of police violence exposures and any PEs was robust to adjustment for gender, age, race, sexual orientation, income, education, psychological distress, and self-reported criminal activity, Wald $X^2_{(df = 1)}$ = 24.32, P < .001, OR (95% CI) = 1.44 (1.24–1.66). Relative to respondents who did not report any police victimization exposure, the predicted probability of reporting any PEs increased with each additional victimization sub-type (supplementary figure). Specifically, 1 police victimization exposure was associated with a 9.0% point increase in predicted probability, 2 exposures with a 21.0% point increase, 3 exposures with a 34.9% point increase, 4 exposures with a 48.8% point increase, and 5 exposures with a 60.7% point increase. The predicted probability of any PE among those reporting any police victimization was 45.4%, compared to 19.0% among those reporting no police victimization, a difference of 26.4% points. Additional logistic regression models were used to test separately for interactions between police violence and race/ethnicity, gender, and sexual orientation, first with any PE as the outcome and then for each individual PE sub-type; no interactions were significant (data available on request).

Discussion

Main Findings

Efforts to improve documentation of police killings have produced estimates of nearly 1100 killings per year in the United States (2015 estimate), compared with 7 in Germany (2012), 1 in England (2013–2014) and 0 in Japan (2013–2015).[30] It is likely that this pervasive pattern of victimization has collateral effects that go beyond mortality to include psychological distress and other mental health symptoms. In this study we specifically focused on PEs, a class of mental health symptoms that has been widely linked to exposures that could be socially defeating.[1–3] All domains of police victimization were

Table 1. Sample Demographics by PE Status

	PE = Yes	PE = No	Statistics
	N(%) = 335(20.8)	N(%) = 1275(79.2)	
	n (%)	n (%)	
Gender			$X^2_{(df = 2, n = 1610)} = 19.58, P < .001$
Male	159 (47.5)	511 (40.1)	
Female	169 (50.4)	760 (59.6)	
Trans or other[a]	7 (2.1)	4 (0.3)	
Age group			$X^2_{(df = 3, n = 1610)} = 52.09, P < .001$
18–24	87 (26.0)	187 (14.7)	
25–44	179 (53.4)	582 (45.6)	
45–64	61 (18.2)	406 (31.8)	
65+	8 (2.4)	100 (7.8)	
Race			$X^2_{(df = 3, n = 1610)} = 21.49, P < .001$
White, non-Latino	149 (44.5)	723 (56.7)	
Black, non-Latino	110 (32.8)	351 (27.5)	
Latino	57 (17.0)	127 (10.0)	
Other[b]	19 (5.7)	74 (5.8)	
Sexual orientation			$X^2_{(df = 3, n = 1604)} = 13.00, P = .005$
Heterosexual	280 (83.8)	1147 (90.3)	
Homosexual	20 (6.0)	46 (3.6)	
Bisexual	30 (9.0)	61 (4.8)	
Not specified	4 (1.2)	16 (1.3)	
Income			$X^2_{(df = 5, n = 1601)} = 26.75, P < .001$
<20 000	55 (16.8)	108 (8.5)	
20 000–39 999	61 (18.3)	208 (16.4)	
40 000–59 999	59 (17.7)	240 (18.9)	
60 000–79 999	52 (15.6)	246 (19.4)	
80 000–99 999	47 (14.1)	148 (11.7)	
>100 000	59 (17.7)	318 (25.1)	
Education			$X^2_{(df = 4, n = 1604)} = 15.83, P = .003$
<High School	14 (4.2)	22 (1.7)	
High school or GED	53 (15.9)	179 (14.1)	
Some college/tech	104 (31.2)	345 (27.1)	
College graduate	119 (35.7)	478 (37.6)	
Graduate or Professional	43 (12.9)	247 (19.4)	
Foreign-born			$X^2_{(df = 1, n = 1610)} = 3.00, P = .083$
Yes	21 (6.3)	117 (9.3)	
No	314 (93.7)	1147 (90.7)	
City			$X^2_{(df = 3, n = 1610)} = 5.34, P = .148$
Baltimore	43 (12.8)	182 (14.3)	
New York City	145 (43.3)	477 (37.4)	
Philadelphia	97 (29.0)	372 (29.2)	
Washington, DC	50 (14.9)	244 (19.1)	
Crime involvement			$X^2_{(df = 1, n = 1599)} = 109.56, P < .001$
Yes	130 (39.0)	174 (13.7)	
No	203 (61.0)	1092 (86.3)	

Note: PEs, psychotic experiences.
[a]Includes transgender male to female (n = 1), transgender female to male (n = 2), transgender not further specified (n = 4), and other (n = 4).
[b]Includes Asian/Pacific Islander (n = 62), Native American or American Indian (n = 7), more than 1 race (n = 18), and other (n = 5).

associated with greater prevalence of each type of PEs in the unadjusted analyses, and the majority remained statistically significant after adjusting for demographic variables, psychological distress, and self-reported crime involvement. Overall the pattern of findings suggest that exposure to police violence, particularly severe sexual victimization and physical victimization with a weapon, is associated with PEs, that this association follows a dose-response pattern, and that it is robust to adjustments for potential confounds. In particular, adjustment for crime involvement did not explain our findings, suggesting that the association between victimization and PEs was not due to reverse causation, in which people reporting PEs may be move involved in crime and therefore more likely

Table 2. Prevalence (%) of Police Victimization by PE Group

	Any PE		Individual PE (Present)							
	Present	Absent	Delusional Mood		Paranoia		Thought Control		Hallucinations	
			n	%	n	%	n	%	n	%
Physical	13.5	4.2	39	13.9	26	26.3	13	22.8	19	27.5
Physical w/ weapon	8.7	1.9	26	9.3	15	15.3	9	16.1	17	25.0
Sexual	7.8	1.6	19	6.8	19	19.4	12	21.1	11	15.9
Psychological	31.4	15.2	92	32.9	42	42.4	23	40.4	29	42.6
Neglect	34.3	14.8	96	34.2	46	46.5	20	35.1	29	42.0

Note: PEs, psychotic experiences.

Table 3. Unadjusted and Adjusted Logistic Regression Models of Associations Between Police Victimization and PEs

	Unadjusted Models			Adjusted Models[a]		
	OR	95% CI	Significance	OR	95% CI	Significance
PE (any)						
Physical	3.52	(2.31–5.34)	***	1.77	(1.06–2.94)	*
Physical w/ weapon	4.81	(2.75–8.41)	***	2.48	(1.25–4.95)	**
Sexual	5.32	(2.93–9.66)	***	2.55	(1.23–5.30)	*
Emotional	2.62	(1.98–3.46)	***	1.52	(1.09–2.12)	*
Neglect	3.01	(2.29–3.97)	***	2.35	(1.70–3.23)	***
Delusional mood						
Physical	3.33	(2.17–5.12)	***	1.82	(1.10–3.02)	*
Physical w/ weapon	4.59	(2.63–8.00)	***	2.53	(1.30–4.92)	**
Sexual	3.51	(1.92–6.40)	***	1.54	(0.75–3.15)	
Emotional	2.68	(2.00–3.58)	***	1.69	(1.21–2.37)	**
Neglect	2.78	(2.08–3.71)	***	2.14	(1.54–2.97)	***
Paranoia						
Physical	6.82	(4.08–11.39)	***	2.79	(1.51–5.16)	***
Physical w/ weapon	6.42	(3.35–12.30)	***	2.19	(0.97–4.95)	
Sexual	13.48	(7.18–25.33)	***	7.16	(3.29–15.56)	***
Emotional	3.73	(2.44–5.70)	***	1.78	(1.09–2.90)	*
Neglect	4.49	(2.94–6.85)	***	3.09	(1.92–4.98)	***
Thought control						
Physical	5.06	(2.63–9.76)	***	1.53	(0.67–3.48)	
Physical w/ weapon	6.59	(3.04–14.31)	***	1.60	(0.59–4.38)	
Sexual	11.64	(5.66–23.96)	***	3.98	(1.61–9.83)	**
Emotional	3.09	(1.79–5.32)	***	1.32	(0.69–2.51)	
Neglect	2.41	(1.38–4.22)	**	1.30	(0.68–2.48)	
Hallucination						
Physical	6.59	(3.67–11.84)	***	3.09	(1.51–6.32)	**
Physical w/ weapon	12.79	(6.67–24.52)	***	6.72	(2.97–15.22)	***
Sexual	8.28	(4.00–17.16)	***	3.18	(1.30–7.79)	*
Emotional	3.62	(2.19–5.99)	***	1.84	(1.03–3.27)	*
Neglect	3.53	(2.14–5.82)	***	2.63	(1.49–4.65)	***

Note: [a]Models adjusted for gender, age, race, sexual orientation, income, education, psychological distress, and self-reported criminal activity.
*$P < .05$, **$P < .01$, ***$P < .001$.

to be exposed to negative police encounters. In addition, adjustment for psychological distress reduces the likelihood of our findings being explained by recall bias.

There were also some notably strong associations: sexual victimization appeared to have a pronounced association with paranoia (OR = 7.16) and thought control (OR = 3.98), while physical victimization with a weapon had a striking association with hallucinations (OR = 6.72). Prior studies have demonstrated particularly substantial associations between sexual victimization and psychosis, although links to specific symptoms have been less clear.[31–33] The association between physical victimization with a weapon and hallucinations is difficult to interpret given a notable lack of prior literature
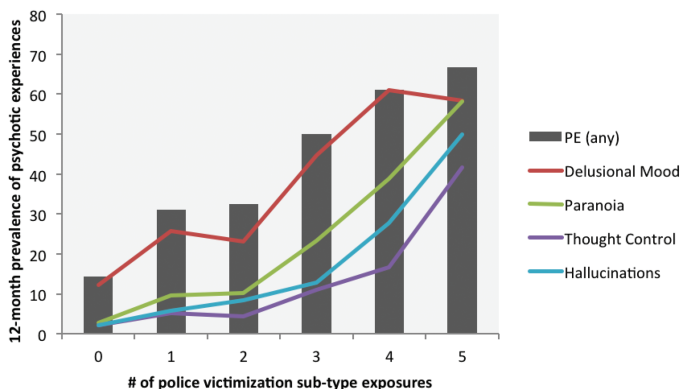
Fig. 1. Twelve-month prevalence of psychotic experiences (PEs) by reported number of sub-types of police victimization exposure. Gray bars indicate the prevalence of any PE, and individual lines indicate the prevalence of each individual PE sub-type. All linear trends were statistically significant.

on this exposure, although it may be roughly analogous to the significant associations recently identified between violent crime victimization and psychotic symptoms.[34] It is also notable that our tests for interaction were not significant in these data. It is plausible that some of our tests of interaction were under-powered (eg, sexual orientation), and should be tested further as larger samples become available. The lack of significant interactions could alternatively reflect a true uniformity in the association between victimization exposure and PEs, consistent with prior evidence that stress and trauma may have similar associations with psychosis across demographic groups,[35,36] although in contrast to some prior evidence of moderation by gender.[37,38] Further, our own prior analyses of these data found no significant interactive effects between police victimization and demographic variables on depression or psychological distress.[23]

While we cannot determine causality using cross-sectional data, our findings are consistent with models of psychosis etiology that assign a prominent role to social adversity, including the diathesis-stress model,[39] social deafferentation hypothesis,[40] and the social defeat hypothesis.[1–3] Proposed mechanisms supporting the biological feasibility of the translation of psychosocial stress exposure to PEs generally involve dysregulation of the hypothalamic-pituitary-axis,[41] with consequent downstream sensitization of dopamine systems[42] among individuals who are genetically or epigenetically vulnerable,[28] resulting in the subjective experience of hallucinations and delusions. There is evidence from animal studies to support these biological mechanisms,[42,43] and epidemiological evidence suggests that psychosis is associated with a range of risk factors, including migration, drug use, below-average intelligence, urban upbringing, childhood trauma, and potentially hearing loss and minority sexual identity, that may be characterized as socially defeating.[3] Our study expands existing knowledge by focusing on the experiences of social defeat that occur

in social contexts where power and resources are inequitably distributed. Power dynamics are implicit in the social defeat hypothesis; eg, social defeat exposures are described as the "negative experience of being excluded from the majority group,"[3(p1180)] which carries the implication that the dominant social group has the power to determine whether others are excluded, leading them to potentially feel devalued and demoralized. The police can be regarded as an apparatus of the state that exists to preserve safety and maintain order, and if the police force is violent and abusive then the victims of their abuse can feel particularly marginalized. Given the implicit role of power in the social defeat hypothesis, as well as our evidence that victimization in the context of a very explicit power dynamic (ie, police–civilian) is a robust risk factor for PEs, we propose that serious consideration be given to incorporating a "power" dimension into this hypothesis and that other possible consequences of violation or victimization by people in power be factored into the model.

Implications

Police violence is widespread in the United States, and unequally distributed across racial/ethnic groups.[23] The most substantial effect of police violence is the shooting and death of civilians.[21] However, the vast majority of civilians that are exposed to police violence are unlikely to die during the interactions. These individuals may still be subject to significant collateral effects, particularly in terms of mental health. This study expands on our prior findings that police victimization is associated with depression and general psychological distress in US cities[23] by showing an association with PEs. The association between police victimization and PEs supports the need for trauma-informed interventions across the psychosis continuum,[44] and suggests several potential points of intervention for PEs (summarized in figure 2), which are likely to also have broader public health benefits. For example, recent evidence from FBI data suggests that racial disparities in police contact may be the primary driver of consequent disparities in police violence,[45] suggesting that developing and refining practices and protocols that guide police engagement with civilians could have consequent effects on violence and, in turn, its mental health correlates. Additionally, systematic reduction of police victimization could be more directly targeted through specific trainings and psychosocial supports for police officers, such as employee assistance programs,[46] community engagement trainings and education on the impact of trauma on community and individual behavioral health. Community-based organizations could provide outreach to victims of police violence in socially disadvantaged urban communities, where the prevalence of police victimization is high, and try to alleviate the "socially defeating" aspects of victimization on an individual level through therapy or social support. This may
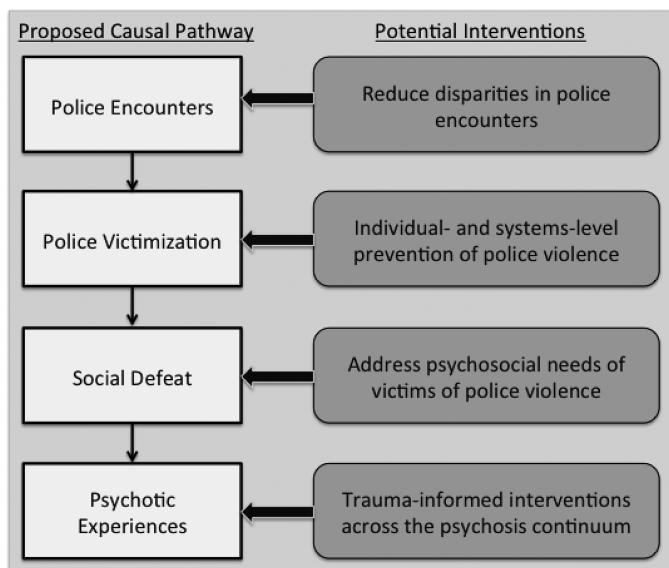
Fig. 2. Proposed causal pathway linking police encounters to psychotic experiences (PEs), with suggested interventions at each stage.

be especially important for psychosis, given that police are often involved with the initial contact for first-episode psychosis.[47] Our data suggest that these encounters may potentially exacerbate psychotic symptoms and therefore support the need to further examine this issue among clinical samples, particular those in the early course of psychotic disorder.

Limitations

Several potential limitations should be considered when interpreting the findings. First, the cross-sectional nature of the survey raises questions of causal direction, which is further complicated by the lack of data on the specific time course of the occurrence of PEs and victimization. Cederlöf and colleagues found that PEs predicted future substance use and suicidal behaviors, and so it is possible that individuals who engage in substance use and/or exhibit suicidal behaviors are more likely to encounter the police, in which case PEs may partly contribute to the likelihood of police victimization.[48] Although this possibility is less likely than the theoretical link of victimization leading to PEs, even reverse causality would be of public health interest as it would suggest that police are disproportionately more likely to interact with people with severe mental health symptoms with excessive force. Further, this explanation is less consistent with the overall pattern of stronger associations between PEs and more severe forms of victimization. Online surveys carry a number of potential limitations in that the samples drawn may exclude low income and/or racial/ethnic populations that do not have access to the internet or are unable to respond to web-based surveys; this may have led to underestimates of both police violence exposure

and PE prevalence in this sample. However, given that the associations between police violence and PEs were consistent across demographic groups (ie, interactions were not significant), this is unlikely to affect the main findings. Items assessing PEs may also be interpreted differently between cultural groups (eg, see broad range of PE prevalence using the CIDI screen[25]). Further, the crime involvement variable was not exhaustive of all types of common urban crime, particularly crimes for which racial and ethnic minorities are disproportionally arrested (eg, use of marijuana),[49] and therefore may have been underestimated. It also did not assess crime victimization, which is likewise associated with PEs,[34] and presumably police encounters, and therefore is a potential confounder. Future research should also consider whether exposure to police violence has effects on psychosis risk above and beyond that of other victimization exposures that were not measured in this survey, including childhood trauma and bullying. Recall biases may have led respondents with psychopathology (including PEs) to be more likely to recall negative events such as victimization, or to interpret neutral police encounters as victimization; however, such effects would likely also apply to respondents who report high psychological distress, and adjusting for psychological distress did not negate the associations, reducing the likelihood of this possible concern. Finally, the absence of an interviewer may have reduced social desirability bias, but may have also yielded less reliable data.

Conclusions

This is the first study to show that exposure to police violence is associated with PEs. These findings align with the possibility that exposure to police violence (or concerns about the lack of accountability for such violence) challenges ones assumptive worldview, threatening a sense of safety, eroding trust, and breaking confidence that one is a person worthy of respectful treatment by societal institutions. Such potential psychological mechanisms can be explored in future research. Cross-sectional associations identified in this study should also be further examined using longitudinal and quasi-experimental designs to further inform causal inference. This is of particular importance given the high rates of police victimization reported in US cities, and the current sociopolitical climate that may make this an opportune time for reform and intervention. Future research should also explore the prevalence and psychological correlates of police victimization among demographically diverse clinical samples of individuals with schizophrenia and other psychotic disorders.

Supplementary Material

Supplementary data are available at *Schizophrenia Bulletin* online.

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