The impact of perceived stigma on psychiatric care and outcomes for correctional mental health patients

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ABSTRACT

The purpose of this study was to examine factors related to the delivery and effectiveness of psychiatric care prior to and following prison release. Particular attention was placed on patients' self-reported needs, psychiatric medication adherence, and perceived stigma related to mental health treatment, and how these factors related to post-release clinical and recidivism outcomes. Participants ($N = 103$) with serious psychiatric disorders (SPD; global assessment of functioning scores below 50) were recruited within 60 days of scheduled release from prison, and provided pre-release and six monthly follow-up interviews. Seventy eight percent of the released sample had at least one follow-up contact. Baseline interviews revealed low social stability prior to the current term of incarceration, and forty five percent of the sample had been returned to jail or prison within six months of release. Regression models revealed that perceived psychiatric stigma was a significant (negative) predictor of medication adherence in the community and even in prison. A path analysis showed that perceived stigma predicted responses on the K-6 psychological distress measure and recidivism both directly and indirectly via its influence on medication adherence. Mitigating the effects of this real or perceived stigma may significantly improve post-release outcomes for this high-risk population.

1. Introduction

In the U.S., prevalence of serious psychiatric disorders (SPD) is exceptionally high among correctional populations. Pooled estimates among prison populations indicate lifetime prevalence of psychiatric disorders including psychotic disorders (4%), major depression (10–14%), and alcohol or other drug misuse (10–60%)—rates 2 to 5 times that of the general population (Fazel et al., 2016). In fact, jails and prisons house individuals with SPD at a rate more than triple that of hospitals (Torrey et al., 2010).

The substantial body of empirical research exploring the relationship between SPD and criminality has revealed a complex and often unclear relationship. Large-scale recidivism studies have shown significantly higher rates of re-arrest, re-conviction, and re-incarceration among released inmates with any psychiatric disorders, relative to their counterparts without a psychiatric diagnosis (Bales et al., 2017). A study of more than 9000 state prisoners showed that those with SPD were returned to prison much sooner (385 days vs 743 days) than their non-SPD counterparts (Cloyes et al. 2010). Other studies, however, indicate that psychiatric disorders themselves are not directly related to criminal risk. Skeem et al. (2014) matched more than 200 parolees with and without psychiatric disorders and tracked their recidivism for over one year. They found that that those with a psychiatric disorder were re-arrested at the same rate as their matched counterparts but were

more likely to be re-incarcerated. Upon further review, they found that those with psychiatric disorders did tend to have more criminogenic risk factors (which did predict re-arrest) but the presence of a psychiatric disorder alone did not predict recidivism.

Regardless of the impact on recidivism, inmates have a protected right to access psychiatric care. In deciding what constituted a violation of the 8th Amendment of the U.S. Constitution, the U.S. Supreme Court ruled in 1976 that ignoring a prisoner's serious medical needs can amount to cruel and unusual punishment, given that "[a]n inmate must rely on prison authorities to treat his medical needs; if the authorities fail to do so, those needs will not be met. In the worst cases, such a failure may actually produce physical torture or a lingering death[.] In less serious cases, denial of medical care may result in pain and suffering which no one suggests would serve any penological purpose."

But it is important to note that providing *access* to psychiatric treatment in jail or prison is not tantamount to providing treatment. The health-services literature offers numerous examples of how perceived stigma can delay help seeking or prevent it altogether—a systematic review by Clement et al. (2015) found a median association of $d = -0.27$ between perceived stigma and help seeking for mental health problems. Their review further revealed that young men and ethnic minorities were especially likely to avoid seeking mental treatment as a result of perceived stigma. Given that U.S. correctional populations are disproportionately made up of young, male, ethnic

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minorities, it is reasonable to expect high levels of perceived stigma in these settings. Indeed, one survey of maximum-security inmates showed that among prison inmates former psychiatric patients are perceived in a much more negative light than former inmates (Edwards 2000). Such broadly held perceptions of stigma are likely to discourage treatment engagement and medication adherence in and out of prison, and low antipsychotic adherence has been linked to increased risk of violent and non-violent recidivism among correctional psychiatric patients (Rezansoff et al., 2017).

The purpose of this study was to directly assess the levels of perceived psychiatric stigma among a sample of soon-to-be released California state prison inmates with serious psychiatric disorders, and to examine the extent to which this construct predicted psychiatric medication adherence, psychological distress, and recidivism following release. In addition, we report other insights gained through this study that reflect other important challenges to successful reentry, such as homelessness and a lack of social support.

2. Methods

2.1. Procedures

During the period of recruitment (February 2, 2017–September 21, 2017), the California Department of Corrections and Rehabilitation (CDCR) provided UCLA researchers with periodic lists of inmates with SPD who had projected release dates within 60 days. In a private setting, the UCLA Staff Research Associate (SRA) approached each candidate and invited them to participate in the study. Those who provided consent were interviewed at that time or scheduled for a baseline interview prior to release.

Once released, study participants were asked to call the UCLA research center on a monthly basis to participate in additional brief interviews. Subjects were paid $20.00 per interview, using a reloadable debit card (Greenphire ClinCard) that was mailed to them as soon as they were released from prison. At the conclusion of the follow-up portion of the study, UCLA obtained treatment participation data from CDCR and re-arrest records from the California Department of Justice.
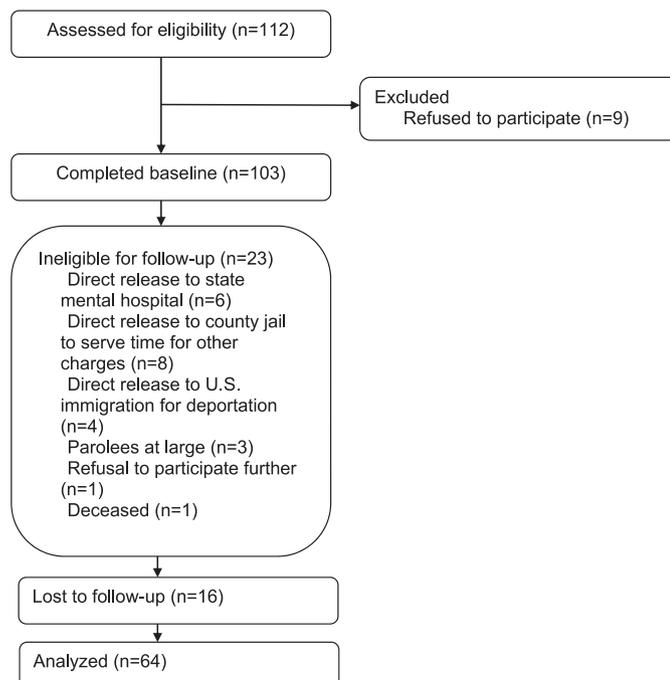

Fig. 1. Consort diagram.

2.2. Sample

Participants were inmates in the California state prison system who, at baseline, were within 60 days of scheduled release from prison (*N* = 103). All participants had been diagnosed with one or more serious psychiatric disorder (SPD). This designation was based on whether CDCR had classified them as "enhanced outpatient" (EOP). EOP-designated inmates typically have global assessment of functioning (GAF) scores below 50, and meet the following criteria:

- Acute onset or significant decompensation of a serious mental disorder characterized by increased delusional thinking, hallucinatory experiences, marked changes in affect, and vegetative signs with definitive impairment of reality testing and/or judgment; and/or
- Inability to function in the general population based upon: a. A demonstrated inability to program in work or educational assignments, or other correctional activities such as religious services, self-help programming, canteen, recreational activities, visiting, etc. as a consequence of a serious mental disorder; or b. The presence of dysfunctional or disruptive social interaction including withdrawal, bizarre or disruptive behavior, extreme argumentativeness, inability to respond to staff directions, provocative behavior toward others, inappropriate sexual behavior, etc., as a consequence of serious mental disorder; or c. An impairment in the activities of daily living including eating, grooming and personal hygiene, maintenance of housing area, and ambulation, as a consequence of serious mental disorder.

Among those invited to participate, 92% agreed to do so (see Fig. 1).

2.3. Measures

The baseline interview was conducted in person by staff researchers within 60 days of the participants' scheduled release date. In addition to patient background characteristics, the baseline interview consisted of the following scales:

- *Morisky Medication Adherence Scale-8 Item (MMAS-8)* (Morisky et al., 2008). The MMAS-8 has strong internal reliability compared with the four-item scale (Chronbach's alpha = 0.83 versus 0.61). MMAS-8 scores can range from 0 to 8 and have been trichotomized previously into three levels of adherence to facilitate use in clinical practice (high adherence, score of 8; medium adherence, 6–8; and low adherence, <6). Prior research revealed that the scale was significantly (*p* < .05) associated with pill counts.[1]
- *K-6 Scale of Serious Psychological Distress* (Pratt 2009). The K-6 measures the frequency of each of six symptoms of mental illness or nonspecific psychological distress. The instrument has been shown to have good sensitivity and specificity in measuring serious mental illness (Pratt 2009).
- *Perceived Stigma and Barriers to Care for Psychological Problems* (Britt et al., 2008). This is an 11-item instrument assessing stigma and barriers to seeking mental health treatment. The measure has good reliability (Cronbach's alphas on the stigma and barriers to care subscales were 0.91 and 0.74, respectively). It should be noted that only the "perceived stigma" subscale was used in the analyses for this study, as our interest was in the more generalizable findings regarding perceived stigma, rather than perceived barriers or constraints that may be unique to California.
- The six follow-up interviews, which were conducted monthly by

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[1] In the analysis, one item ("When you travel or leave home, do you sometimes forget to bring along your medications?") was dropped because it was not relevant to incarcerated persons. For consistency, this item was also dropped from the post-release interviews.
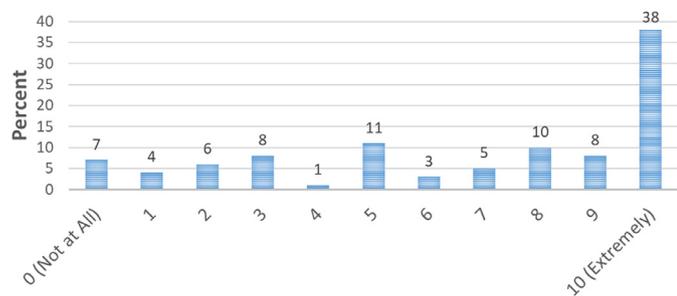
Fig. 2. How concerned are you about "getting by" after leaving prison? (*N* = 103).

phone, assessed the participants' self-reported service needs, medication adherence (MMAS-8), and psychological functioning (K-6). Several open-ended questions were also asked regarding their perceptions of treatment, why they were not in treatment (if appropriate), and to what extent their mental health problems related to their re-arrest/parole violation (if appropriate). Re-arrest data were also obtained from the California Department of Justice. As shown in Fig. 1, 80 of the participants who provided a baseline interview were later available to participate in follow-up interviews. We completed one or more follow-up interviews with 62 participants—for an overall rate of 77.5%.

2.4. Analyses

We assessed the role of perceived psychiatric stigma on medication adherence (prior to and following prison release) using multivariate ordinary least squares regressions that controlled for age, gender, and race. We conducted similar regression models to predict psychological distress at these same timepoints. We then used the coefficients from the regressions to create a path model predicting recidivism via direct and indirect paths from perceived stigma and medication adherence, and estimated the value of the indirect path by multiplying coefficients from the two direct paths.

3. Results

Background characteristics of study participants are shown in Table 1. Most of the participants were male (86%) and their average age was 38.7 (SD = 11.4). The majority described themselves as African American (35%), followed by Hispanic (30%), and White non-Hispanic (28%). Of greatest relevance to the present study are the indicators of social stability. Fewer than half (43.7%) of the participants

Table 1
Subject characteristics (*N* = 103).

Variable	Total	Follow-up sample (*n* = 64)
Male	93.2%	90.6%
Age	38.7 (SD = 11.4)	38.5 (SD = 10.7)
Race/Ethnicity		
African American	35.0%	34.4%
White-Non-Hispanic	28.2%	29.7%
Asian/Pacific Islander	4.9%	3.1%
American Indian/Alaskan Native	3.9%	3.1%
Other	34.0%[a]	29.7%
High School degree or more	43.7%	45.0%
Full-time employment (prior to incarceration)	15.5%	15.6%
Homeless (prior to incarceration)	58.3%	50.0%
Time served (current sentence)	3.1 years (SD = 3.4)	3.4 years (SD = 3.8)

[a] 88% of individuals in this category were of Hispanic ethnicity.

had graduated from high school (or earned an equivalent diploma). Only 16% reported having a full-time job at the time of incarceration, and nearly six in 10 reported being homeless immediately prior to serving their current sentence.

The remainder of this section is structured to describe pre-release medication adherence, release factors (self-reported concerns, mode of transportation/assistance), functioning in the community (psychological distress, medication adherence, unmet needs, and recidivism), and predictors of these outcomes.

3.1. Pre-release psychiatric medication adherence

Eighty-two percent of the participants reported that they had taken psychiatric medication in the two weeks prior to the interview. Of these, MMAS scores ranged considerably (from 1 to 7), with a mean of 5.1 (SD = 1.7). Taking into account the deletion of one of the MMAS items, this level would suggest low- to medium-level psychiatric medication adherence while in custody.

3.2. Release factors

3.2.1. Concerns about release

The baseline interview concluded with two questions regarding participants' post-release concerns. Respondents were asked, "How concerned are you about getting by after you are released?" ranging from 0 (not at all concerned) to 10 (extremely concerned). The mean response was 6.8 (SD = 3.5), but nearly four in 10 (38%) chose the maximum rating of 10. When asked what their main concerns were, the most commonly expressed themes were housing (59%), continuing psychiatric treatment (55%), and employment (26%).

3.2.2. Mode of return home

At the time of the first post-release interview, we asked participants to describe the process by which they left prison and returned home. These open-ended responses were later coded and categorized for analysis. Two of the categories are especially noteworthy, given the level of impairment of the study population. Only 16% were met by a friend or family member as they left the prison facility, and slightly more than one half (51%) of the participants reported that they left prison alone and relied upon some form of public transportation. Among the rest of the respondents, 4% were escorted by a parole agent via public transportation, 4% were picked up by a community provider, 15% were driven directly home by a parole or police officer, and 11% were driven to a residential program by a parole or police officer.

3.3. Functioning in the community

Functioning in the community was assessed in three ways—psychological distress (K-6), medication adherence (MMAS), and recidivism.

3.3.1. Psychological distress

We administered the K6 to assess overall mental health of study participants. The K6 scale was developed to assess respondents' non-specific distress to discriminate cases of serious mental illness from non-cases. Conventional thresholds from larger validation studies classify respondents with scores of 13–24 as having probable SPD and those with scores of 0–12 as probably not having SPD (Kessler et al., 2002). The mean K6 score for our study sample was 9.9 (SD = 5.9), with a range of 0 to 23. Thirty-eight percent scored at or above the threshold for SPD.

Post release *medication adherence*. Post-release scores on the modified MMAS-8 ranged from 5.5 (SD = 1.8) at month 1 to 6.3 (SD = 1.3) at month 6. This may reflect selection bias, as the sample size was smaller for the final follow up (*n* = 52 vs 27). The mean MMAS score across all available time points was 5.6 (SD = 1.6), indicating low- to

Table 2
Predicting medication adherence from age, gender, race, and perceived stigma at three different time points.

Time Point	Predictor	DF	β	SE	t value	P
Time Point A (In Prison)	Age	1	0.03	0.02	2.0	.06
	Male	1	−1.4	0.72	−2.0	.06
	African American	1	−0.17	0.36	−0.5	.63
	Perceived Stigma	1	−0.10	0.03	−3.9	.0002
Time Point B (1 Mo Post Release)	Age	1	0.02	0.02	0.9	.35
	Male	1	−0.90	0.89	−1.0	.32
	African American	1	−0.18	0.48	−0.4	.71
	Perceived Stigma	1	−0.14	0.04	−3.5	.001
Time Point C (Averaged Across 6 Mo Follow Up)	Age	1	0.04	0.02	2.1	.04
	Male	1	−0.96	0.64	−1.5	.14
	African American	1	0.08	0.41	0.2	.84
	Perceived Stigma	1	−0.10	0.03	−3.4	.002

Note.
[Time Point A] Fit for model $R^2 = 0.23$, Adjusted $R^2 = 0.19$, $F(4, 78) = 5.9$, $p < .001$. $N = 103$.
[Time Point B] Fit for model $R^2 = 0.23$, Adjusted $R^2 = 0.17$, $F(4, 46) = 3.5$, $p < .05$. $N = 55$.
[Time Point C] Fit for model $R^2 = 0.23$, Adjusted $R^2 = 0.17$, $F(4, 52) = 3.9$, $p < .01$. $N = 64$.

medium levels of psychiatric medication adherence.

3.3.2. Recidivism

Recidivism for this study was defined as any arrest or a return to custody (either jail or prison) during the six months following release from prison. It should be noted that California releases some prisoners to be supervised at the county level rather than as state parolees. As a result, revocations may result in placements in local jails rather than returns to prison. Slightly under half (44.7%) of the sample met this definition of recidivism.

3.4. Predictors of medication adherence, psychological distress, and recidivism

Table 2 shows results of three multivariate ordinary least squares regressions using age, gender, race (African American vs other), and perceived psychiatric stigma to predict psychiatric medication adherence at three time points—in prison, one month following release, and averaged across all (potentially) monthly contacts over the six months following release. Across all three of these models, perceived psychiatric stigma is the only variable to consistently predict medication adherence. In each case, higher levels of perceived stigma are associated with significantly lower levels of adherence.

Table 3 shows results of similar regression models predicting psychological distress. As in the preceding models, perceived psychiatric stigma was the only consistent predictor, with higher perceived stigma associated with higher levels of distress. Adjusted R squares for these models are somewhat lower than those found for the regressions predicting adherence.

Fig. 3 shows a path model predicting recidivism via direct and indirect paths from perceived stigma and medication adherence. The direct effect of perceived psychiatric stigma is 0.06 on recidivism and the indirect effect through medication adherence is 0.04 on recidivism ($p < .05$), controlling for age, gender and race/ethnicity.

4. Discussion

The goal of this study was to assess the interrelationships between perceived psychiatric stigma, psychiatric medication adherence, psychological distress, and recidivism among a sample of released prison inmates with SPD. As noted in the introduction to this paper, community-based studies of individuals with mental health problems have shown moderate to strong negative relationships between perceived psychiatric stigma and help-seeking (Clement et al., 2015), and prison inmates tend to hold negative perceptions of other inmates who have psychiatric disorders (Edwards 2000).

Table 3
Predicting psychological distress in prison from age, gender, race, and medication adherence at three different time points.

Time Point	Predictor	DF	β	SE	t value	P
Time Point A (In Prison)	Age	1	0.03	0.05	0.60	.57
	Male	1	−2.34	2.60	−0.90	.36
	African American	1	−0.04	1.20	0.04	.97
	Med Adherence	1	−1.40	0.36	−3.79	.0003
Time Point B (1 Mo Post Release)	Age	1	0.07	0.08	0.92	.36
	Male	1	1.40	3.04	0.46	.65
	African American	1	−2.56	1.63	−1.57	.12
	Med Adherence	1	−1.25	0.44	−2.84	.007
Time Point C (Averaged Across 6 Mo Follow Up)	Age	1	0.06	0.06	0.90	.37
	Male	1	1.02	2.16	0.47	.64
	African American	1	0.58	1.36	0.43	.67
	Med Adherence	1	−1.12	0.42	−2.70	.01

Note.
[For Time Point A] Fit for model $R^2 = 0.16$, Adjusted $R^2 = 0.11$, $F(4, 78) = 3.6$, $p < .01$. $N = 103$.
[For Time Point B] Fit for model $R^2 = 0.20$, Adjusted $R^2 = 0.13$, $F(4, 46) = 2.8$, $p < .05$. $N = 55$.
[For Time Point C] Fit for model $R^2 = 0.14$, Adjusted $R^2 = 0.07$, $F(4, 52) = 2.1$, $p < .10$. $N = 64$.

The direct effect of stigma is .06 on recidivism and an indirect effect through medication adherence is .04 on recidivism, controlling for age, gender and race/ethnicity.
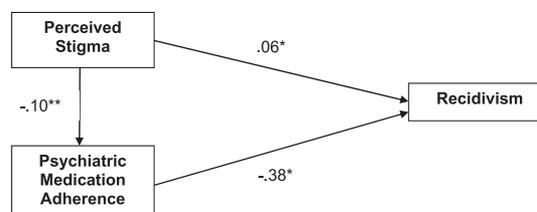

Fig. 3. Path analysis predicting recidivism.
The direct effect of stigma is 0.06 on recidivism and an indirect effect through medication adherence is 0.04 on recidivism, controlling for age, gender and race/ethnicity.

The sample of SPD inmates enrolled in the present study had a wide range of challenges. Most had not graduated from high school, only 16% reported having a full-time job at the time of incarceration, and

more than half reported being homeless immediately prior to serving their current prison term. Likewise, nearly four in 10 expressed the highest possible rating of concern when asked about their confidence in succeeding after release. Lastly, only 16% of the released inmates in our study were met by a friend or family member when they left prison (approximately half left alone).

That this is a high-need population requiring intensive services and support is not a new finding. But the exacerbating role of psychiatric stigma (real or perceived) on correctional mental health patients with regard to medication adherence, psychological distress, and recidivism is a new finding, and an important one. Our regression models revealed that perceived stigma was a consistent and significant predictor of medication adherence and distress in the community and—to our surprise—even in prison. Moreover, we found that perceived stigma significantly predicted responses on the K-6 psychological distress measure and recidivism both directly and indirectly via its influence on medication adherence. This result is similar to findings with non-correctional populations (Livingston, Boyd 2010; Mashiach-Eizenberg et al., 2013).

Two important limitations of this study are the post-release contact rates and the measure of recidivism. Follow-up rates at any one contact point over the 6-month observation window ranged from 41% (at 6 months) to 80% (at 1 month) among those released (23 were ineligible for follow-up, per Fig. 1). To address this, we focused on medication adherence and psychological distress assessed prior to release, one month following release (where rates are highest), and on average, across all available time points. The fact that the patterns appeared similar both in and out of prison suggests that the findings are not artifacts of selection bias. With regard to our measure of recidivism, relying on our own records (based on a combination of DOJ records and our tracking and locating notes) proved to be the most valid method. Relying solely on DOJ records was insufficient, due to aliases and inconsistent spelling of names. Likewise, returns to prison (which we have successfully used in the past) is no longer a viable measure of recidivism in California, given that many inmates are released to supervision at the county level (and therefore subsequently detained in local jails rather than prison).

Following the initial peer review of this manuscript, it was suggested that we assess the roles of paranoid thinking and of perceived racism. We did not assess paranoid thinking in this project, though we agree that this could have been an important factor. Nor did we assess perceived racism (which would also merit inclusion in future research). We were, however, able to explore race/ethnic differences in medication adherence and recidivism and found no relationship between perceived stigma or medication adherence and race/ethnicity. This was somewhat surprising, given prior research indicating higher levels of perceived psychiatric stigma among minority populations (Anglin et al., 2006). However, we did find substantial variation in recidivism risk, with African-American (35%) and Hispanic (37%) study participants being more likely that white study participants (28%) to have been re-arrested or reincarcerated within six months of release (Chi-square [$N = 95$; DF = 2] = 6.2; $p < .05$). Unfortunately, the data available to us lacked sufficient detail to shed light on these recidivism events and surrounding factors.

The strong and consistent association between perceived psychiatric stigma and psychiatric medication adherence both directly and indirectly through psychological distress among correctional mental health patients appears to take a negative toll on post-release functioning and recidivism. Our calculated effect sizes for the differences in psychiatric medication adherence between recidivist and non-recidivists ($d = 0.58$) and also between those above vs below the median on perceived psychiatric stigma ($d = 0.70$) indicate a medium effect size of these associations. To further assess clinical meaningfulness of our findings, we created a composite measure for negative parole outcomes based on recidivism or scoring above the clinical threshold for psychological distress on the K-6. Fifty three percent of the sample had a negative parole outcome using this standard. Controlling for other background factors, those scoring above the median in perceived psychiatric stigma had more than double the odds (OR = 2.6 [95% CI: 1.1, 6.2]) of experiencing a negative recidivism or mental health outcome than those scoring below the median on perceived stigma.

An important area for future research should be to determine how best to mitigate the pernicious effects of real and/or perceived psychiatric stigma within correctional settings. This might involve interventions aimed at lessening stigma among correctional populations (and staff) overall, improving resilience among inmates with SPD to adhere to treatment in spite of perceived stigma, or perhaps a comprehensive effort targeting both.

Acknowledgement

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