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EMPIRICAL REPORT

Assaults and Microaggressions Against Psychiatric Residents: Findings from a US Survey

Drew Dawson[1] · Sarah Beth Bell[2] · Nicholas Hollman[2] · Tara Lemens[2] · Crystal Obiozor[3] · Danielle Safo[2] · Tessa Manning[2]

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Abstract

Objectives Psychiatric physicians may experience higher rates of assault than those in other fields. For many reasons, residents may be especially vulnerable. This study updates rates of assaults among US psychiatry residents as well as the reporting rates and emotional effects of these incidents. Little data exists to examine rates of microaggressions against psychiatry residents.

Methods A cross-sectional online survey was distributed through a national residency database via a snowball-sampling approach between June and September of 2021. The questionnaire asked about experiences of verbal, physical, and sexual assaults, as well as microaggressions and their impact. Descriptive analyses of the obtained data were conducted.

Results The survey was completed by 275 psychiatry residents from 29 states (63.6% women). At least one form of assault was experienced by 78.9% of participants with 74.5% experiencing verbal, 22.2% experiencing physical, and 6.2% experiencing sexual assault. At least one type of microaggression was experienced by 86.9% of trainees. Elevations in PTSD scores were seen in residents who identified as women and non-White and those physically injured or sexually assaulted. While 92.7% of residents stated their program provided training about assault, 25% of residents indicated they had no training on recognizing and responding to microaggressions.

Conclusions Psychiatric residents experience widespread assault and microaggressions in the clinical setting but often do not report them. Due to the ubiquitous nature of these events, programs should provide training about early recognition and de-escalation techniques for agitation, responding effectively to microaggressions, and the importance of reporting events.

Keywords Violence · Education · Psychiatry · Resident · Microaggressions

Workplace violence towards healthcare workers (HCWs) is a known occupational hazard worldwide [1, 2]. A recent meta-analysis found younger people, people who have less work experience, and people who work more than 40 hours a week are at the greatest risk for workplace violence [1]. Compared to other medical care settings, there is a higher prevalence of physical violence in mental health treatment programs [3]. This combination of risk factors puts psychiatric residents at an especially high risk of workplace violence, which can result in more vulnerability to burnout, trauma, and physical injuries [1].

While several studies have measured workplace violence against psychiatric residents in the US, there have been no updated reports for the past 10 years. Despite this, previous work still provides valuable insight. For example, a systematic review published in 2012 showed that psychiatric residents were assaulted at higher rates (from 25 to 64%) than of other specialties including surgery, emergency medicine, internal medicine, and pediatrics [4]. Troublingly, psychiatric residents also reported a higher level of distress related to these incidents than residents in other specialties [4]. One 2012 study surveying 519 psychiatry residents in 13 programs found that 86% had been threatened by patients, while 25% had been physically assaulted [5]. Older studies from 1999 and 2002 found similar rates [6, 7].

✉ Tessa Manning
Tessa-Manning@ouhsc.edu

[1] Oklahoma City Indian Clinic, Oklahoma City, OK, USA

[2] University of Oklahoma School of Community Medicine, Tulsa, OK, USA

[3] Baylor College of Medicine, Houston, TX, USA

According to a 2022 Bureau of Labor report, the healthcare and social service industries not only experienced the highest levels of workplace violence, but also were five times more likely to experience a workplace violence injury than other workers. The report also found that workplace violence against HCWs has steadily increased since 2011 [8]. HCWs experiencing workplace violence during the COVID-19 pandemic also had an increased likelihood of reporting symptoms of depression, anxiety, posttraumatic stress disorder, and suicidal ideation [9]. Due to an increase in violence against HCWs both gradually increasing since 2011 and quickly increasing in the context of the COVID-19 pandemic, it was hypothesized that violence towards psychiatric residents may have also increased over this time period.

Workplace violence is often underreported in healthcare settings [10, 11]. One study compared self-reports of workplace violence on an anonymous survey with official documentation in a hospital incident reporting system and found 88% did not formally document incidents [10]. Underreporting can be due to many reasons including a belief that nothing would change as a result of a report, the opinion that experiencing violence is an inevitable part of the job, fear of consequences, not knowing how to report, not having sufficient time to report all incidents, and fear of being seen as over-reacting and possibly being blamed for provoking an assault [11]. Psychiatric residents may be susceptible to underreporting due to the nature of psychiatric residency including lack of experience, being frequently evaluated by supervisors, working with patients having acute mental health disorders, and working long hours. Because medical staff do not report these incidents formally and the true burdens are unknown, training programs may not give priority to teaching topics such as agitation management and addressing discrimination. Underreporting also stifles hospital administration from making hospital policies and practices that specifically address medical staff assault and discrimination.

Besides examining violence against psychiatric residents in the US more generally, an additional purpose of the present paper is to examine potential cross-cultural differences in violence against psychiatric residents. A similar study measuring violence against psychiatric residents was conducted across European countries from 2015 to 2018 [12] and this was directly replicated in Asia from 2018 to 2020 [13]. With the permission of the authors of these two studies, this study conceptually replicates their work and measures self-reported rates of physical, verbal, and sexual assault among US psychiatric residents.

In addition to the conceptual replication, this study also examines rates and types of microaggressions among psychiatric residents. While assault against residents has been studied for decades, few studies were found to quantify the degree of microaggressions encountered by medical trainees in clinical settings. Studies in medical students have found between 80% and 99% experienced microaggressions during their training, with women and underrepresented minorities having the highest rates [14, 15]. One study of plastic surgery residents found that 68.8% had experienced microaggressions with women, racial minorities, and sexual minorities having the highest rates [16]. These findings suggest that psychiatry residents may have similar experiences.

The primary aim of this study is to obtain self-reported rates of verbal, sexual, and physical assault by patients. The survey also asked psychiatric residents about microaggressions experienced during training, but not specifically from patients. Secondary aims include examining the emotional impact of assaults, incident reporting rates, training, and posttraumatic stress disorder (PTSD) symptoms. The final aim is to compare the prevalence of assault in the US, Europe, and Asia. These results may give an overall picture of the physical and psychological impacts psychiatric residents experience and how training programs could best prepare residents for these events.

Methods

An anonymous survey consisting of 33 multiple-choice questions was sent to 674 psychiatric residency and fellowship training programs in the United States (US). The survey was sent through email to the primary contact and program coordinator for each training program listed on the American Medical Association Fellowship and Residency Electronic Interactive Database Access (FREIDA) database [17]. The primary contact was then asked to distribute the survey through email to residents in their program. The questionnaire was open from June 9th, 2021, to September 6th, 2021. Inclusion criteria were physicians in formal psychiatric training programs located in the US at the time the survey was distributed.

The survey asked residents about their history of being assaulted by a patient or patients and if they had experienced microaggressions during their training. Further, the survey posed questions on the psychological and physical impact this had on residents, whether the resident reported the incident to their supervisor or law enforcement, and finally if their program provides training and has response plans related to patient aggression. More specifically, the questionnaire asked about three different types of assault incidents, namely (a) *physical assault* (contact by another person with the intent to harm, including punching, kicking, slapping, biting, stabbing, grabbing, spitting, wrestling to the ground, pinning to the floor, throwing objects at the person being assaulted, and experiences similar to these), (b) *sexual assault* (unwanted sexual contact, including rape, attempted rape, fondling, forced kissing, and/

or inappropriate exposure), and (c) *verbal assault* (racial slurs, other derogatory comments, and statements meant to frighten and/or threaten the person being assaulted or the families of the person being assaulted, or any other threats to life, safety, or property). The survey also asked about *microaggressions* which were defined in the survey as a statement or action that indirectly, subtly, or unintentionally degrades a person or reinforces a stereotype of the identity of the person being assaulted including racial identity, gender identity, sexual orientation, or other personal identities. The survey did not specify microaggressions were only from patients but rather the training environment. This allowed a more comprehensive perspective as it would include experiences from patients, co-workers, and superiors, as well as clinical and administrative staff.

To further assess the psychological impacts of these events, the National Stressful Events Survey Short Scale (NSESSS) was also included [18]. The NSESSS is composed of nine items that are rated on a 5-point scale (0 = Not at all; 1 = A little bit; 2 = Moderately; 3 = Quite a bit; and 4 = Extremely). The total score can range from 0 to 36 with higher scores indicating greater severity of symptoms of PTSD.

Analysis for this study was conducted using IBM SPSS Statistics version 29 and SAS 9.4 (SAS Institute, Cary, NC). The survey was approved by the University Of Oklahoma Health Science Center Institutional Review Board in January 2021. The Qualtrics© (Qualtrics, Provo, UT) platform was utilized for survey development and data collection.

Results

The survey was completed by 287 respondents; however, 12 were excluded because they did not complete demographic data and/or did not complete the majority of survey questions. The remaining 275 respondents came from 29 different states across the US, with the highest number of responses coming from Texas, California, Florida, and North Carolina as seen in Fig. 1. Women represented 63.6% ($n = 175$) of the sample and the mean age was 30.9 years (SD = 3.9, range 25–50). Most of the respondents were from general adult psychiatry programs; however, there were additional responses from child/adolescent psychiatry and other fellows. Additional sample characteristics are presented in Table 1.

Of the 275 residents, 78.9% ($n = 217$) reported they had been physically, sexually, or verbally assaulted as a psychiatric resident in a mental healthcare setting. Of these, 94.5% ($n = 205$) of these individuals experienced verbal assault, 7.8% ($n = 17$) experienced sexual assault, and 28.1% ($n = 61$) experienced physical assault. Figure 2 presents data related to the frequency of the different types of assault. Out of the residents that experienced physical assault, 21.3% ($n = 13$) reported an injury. Of those that were injured, 84.6% ($n = 11$) reported minor physical injury, while 15.4% ($n = 2$) reported major physical injury (defined as requiring medical assistance). When looking at assault by healthcare setting, 66.8% ($n = 145$) experienced events in the emergency room, 85.3% ($n = 185$) on the inpatient ward, 7.8% ($n = 17$) in the outpatient setting, and 7.8% ($n = 17$) in the community setting.

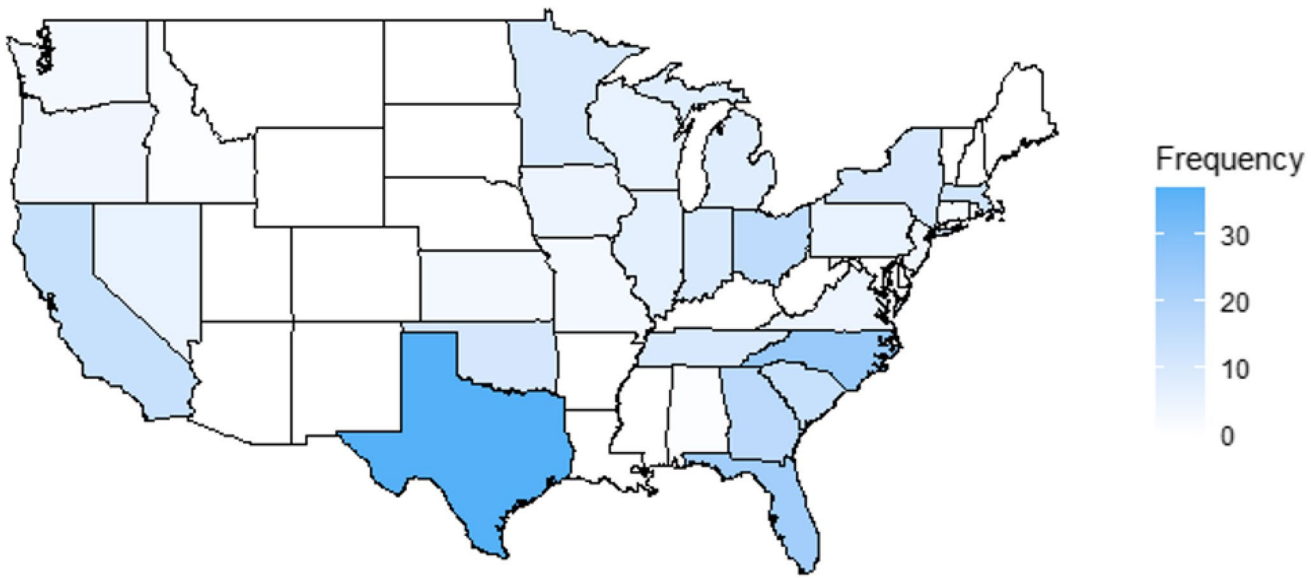

Fig. 1 Frequency of survey response by state

Table 1 Demographic characteristics of the sample ($n=275$)

Variable	M (SD) | % (n)
Age (years)	30.9 (3.9)
Gender	
Female	63.6% ($n=175$)
Male	34.9% ($n=96$)
Other or prefer not to say	1.5% ($n=4$)
Race/ethnicity*	
Asian	28.7% ($n=79$)
Black	6.5% ($n=18$)
Hispanic	6.9% ($n=19$)
Indigenous	1.5% ($n=4$)
Multi-racial	5.5% ($n=15$)
Other	4.0% ($n=11$)
Pacific Islander	0.4% ($n=1$)
White	55.6% ($n=153$)
Sexual orientation*	
Asexual	1.1% ($n=3$)
Bisexual	8.0% ($n=22$)
Gay or lesbian	5.5% ($n=15$)
Heterosexual	83.3% ($n=229$)
Other	1.8% ($n=5$)
Prefer not to say	2.2% ($n=6$)
Type of training program	
General adult psychiatry	83.6% ($n=230$)
Child/adolescent psychiatry	8.4% ($n=23$)
Other	8.0% ($n=22$)
Post-graduate training year	
PGY-1	20.4% ($n=56$)
PGY-2	30.2% ($n=83$)
PGY-3	23.6% ($n=65$)
PGY-4	16.0% ($n=44$)
PGY-5	8.4% ($n=23$)
PGY-6	0.7% ($n=2$)

*Participants could select more than one response

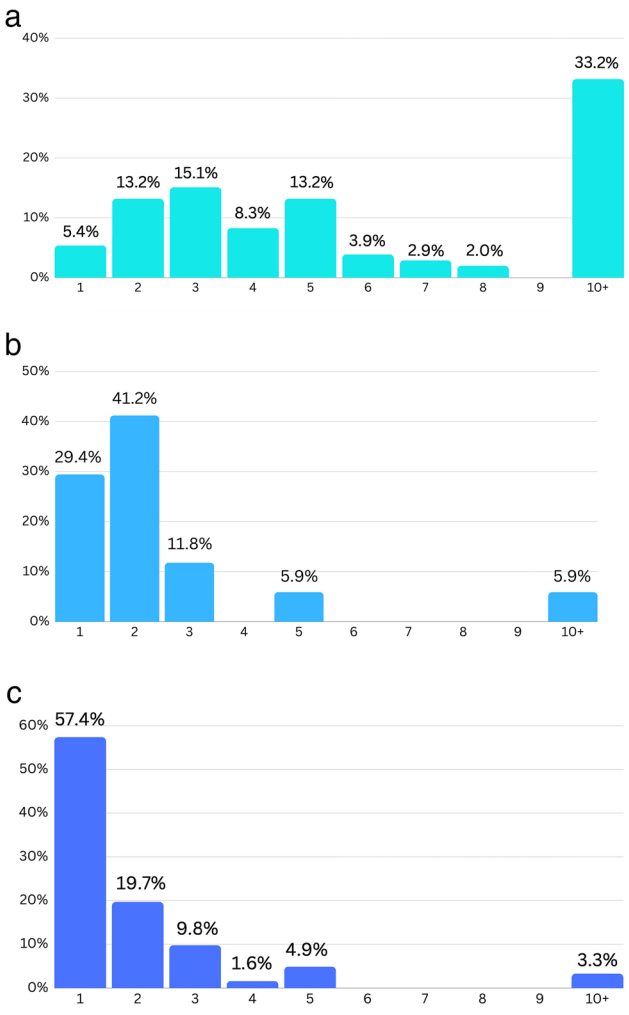

Fig. 2 **a** Frequency of verbal assault. **b** Frequency of sexual assault. **c** Frequency of physical assault. *Missing responses are not included

Analyses were conducted to test for any associations between demographics (age, gender, sexual orientation, race) and types of assault. While not statistically significant, 35.3% of those experiencing sexual assault identified as LGBTQ+, while this population only accounted for 17.5% of the total sample. There was also a statistically significant association between gender and likelihood of experiencing physical assault (X^2 (1, $n=271$) $=4.26$, $p=0.04$) with 18.3% ($n=32$) of women ever experiencing a physical assault and 29.2% ($n=28$) of men ever experiencing a physical assault. There were no other significant associations between any demographic group and the likelihood of experiencing different types of assault.

Out of the 217 residents that experienced any assault, 40.6% ($n=88$) reported the assault to their supervisor and 23.5% ($n=51$) called either the police or security for help. Of those assaulted, 42.9% ($n=93$) stated they did not report because they felt it would be unnecessary, 27.2% ($n=59$) stated they did not report as they felt it would be useless, 27.6% ($n=60$) stated they reported and measures were taken, 13.4% ($n=29$) responded they reported but measures were not taken, and 5.1% ($n=11$) reported in the past but stopped reporting because the desired outcome did not occur. Of the 51 residents that reported the assault to police or security for help, 76.5% ($n=39$) reported that police helped at the time of the event, 31.4% ($n=16$) reported the police took a report, 5.9% ($n=3$) of residents reported the police took no action, and 5.9% ($n=3$) of residents reported a different police action under the response "other" occurred.

For those that experienced any assault, the psychological and work impacts are reported in Table 2. The most reported emotions related to an attack were anxiety (66.8%) and fear (67.7%). A sizable number of residents also reported feeling

Table 2 Prevalence of microaggressions, and impact of assault and microaggressions

Microaggression type	% (*n*)	
Racial	41.8% (*n* = 115)	
Age	43.6% (*n* = 120)	
Gender	50.9% (*n* = 140)	
Sexual orientation	8.0% (*n* = 22)	
Religion based	13.1% (*n* = 36)	
Other	13.1% (*n* = 36)	
Personal impact	Assault*	Microaggression**
Anxiety	66.8% (*n* = 145)	40.2% (*n* = 96)
Rage	35.0% (*n* = 76)	44.4% (*n* = 106)
Fear	67.7% (*n* = 147)	21.3% (*n* = 51)
Sadness	34.6% (*n* = 75)	37.7% (*n* = 90)
Guilt	20.7% (*n* = 45)	12.6% (*n* = 30)
Insomnia or trouble sleeping	12.4% (*n* = 27)	8.8% (*n* = 21)
Substance abuse	3.7% (*n* = 8)	5.0% (*n* = 12)
Depressive symptoms	17.5 (*n* = 38)	18.8% (*n* = 45)
Work impact		
Feeling less empathy towards patients with psychiatric disorders	50.7 (*n* = 110)	39.7% (*n* = 95)
Feelings of lack of support from your institution	34.1 (*n* = 74)	37.7% (*n* = 90)
Serious ideas about leaving your work in mental health	20.7 (*n* = 45)	15.1% (*n* = 36)
Serious ideas about leaving your work in medicine	14.7 (*n* = 32)	15.5% (*n* = 37)
Other psychological distress	7.4 (*n* = 16)	6.7% (*n* = 16)

*Denominator for percentage reported is 217 trainees that experienced at least one assault

**Denominator for percentage reported is 239 trainees that experienced at least one microaggression

less empathy towards patients with psychiatric disorders (50.7%) and serious ideas about leaving their work in mental health (20.7%).

After summation of the PTSD scale score, the mean total PTSD symptom score was 2.96 (SD = 5.27), with a range from 0 to 36. There was a statistically significant association between the survey respondents who were injured and their PTSD score ($t(257) = 2.99$, $p = 0.003$), with those that reported an injury having a higher average total PTSD score of 7.15 (SD = 8.06) compared to the average total score of those that did not experience an injury of 2.74 (SD = 5.01), though it is of note that those who had an injury had significantly more variability than those that did not ($p = 0.006$).

Analyses were conducted to determine if there was an association between demographic characteristics and PTSD scores. There was a significant association between gender and PTSD score ($t(253) = 2.34$, $p = 0.020$), with women having a higher average total PTSD score of 3.51 (SD = 6.12) compared to the average total score for men of 1.90 (SD = 2.93). The size of this effect was small (Cohen's $d = 0.31$). There was no significant association between PTSD score and age or sexual orientation. There was a significant association between PTSD score and dichotomous race ($t(257) = 3.10$, $p = 0.002$), with residents identifying as White having a lower mean total PTSD score of 1.96 (SD = 4.21) compared to the average total score of 3.96 (SD = 6.02) for individuals identifying as a minority race. The size of this effect was small to medium (Cohen's $d = 0.39$).

Differences in PTSD scores were also examined among those who experienced verbal, physical, and sexual assault. There was no significant difference among residents that had experienced verbal assault or physical assault compared to those who had not. In contrast, there was a significant association between those experiencing a sexual assault and PTSD score ($t(257) = 3.54$, $p < 0.001$), with those experiencing a sexual assault having a higher average total PTSD score of 7.38 (SD = 9.33) compared to the average total score for those that had not of 2.67 (SD = 4.78). The size of this effect was large (Cohen's $d = 0.91$).

Of the respondents, 86.9% ($n = 239$) indicated they had experienced at least one type of microaggression during their training. There were no significant differences in the prevalence of microaggressions between racial groups. This may be because the prevalence of microaggressions was high among all races. The percentages of racial groups experiencing microaggressions were as follows: 87.3% ($n = 62$) of Asian people; 100.0% ($n = 14$) of Black people; 91.7% ($n = 11$) of Hispanic people; 84.6% ($n = 115$) of White people; and 88.1% ($n = 37$) of those who identified with another racial group or multiple racial groups. However, regarding microaggressions about race specifically, there was a

significant association between racial group and experiencing microaggressions about race (X^2 (4, $N=275$) = 85.9, $p<0.001$). Black people experienced the highest prevalence at 92.9% ($n=13$) followed by Asian people at 73.2% ($n=52$), Hispanic people at 50.0% ($n=6$), White people at 15.4% ($n=21$), and those that identified as another race or multiple races at 54.8% ($n=23$). Table 2 presents data related to the types of microaggressions and their respective personal and work impact. Residents that had experienced microaggressions were asked if they reported these instances to their supervisor with multiple select options to capture the reason behind their actions. The responses were as follows: 62.3% ($n=149$) No, it would be unnecessary (not severe/significant enough); 28.9% ($n=69$) No, it would be useless ("I don't believe it would change anything"); 2.5% ($n=6$) Yes, and measures were taken each time; 5.9% ($n=14$) Yes, and measures were taken sometimes; 4.6% ($n=11$) Yes, but measures were not taken; 5.0% ($n=12$) I have reported but I stopped reporting because the desired outcome did not occur; 4.2% ($n=10$) Other.

Out of the 275 respondents, 92.7% ($n=255$) stated their program provided at least one specific training about assault. Respondents were asked how useful their assault training experience was, if there was any established plan in their training program in case of patient assault, and if their program provided training in relation to microaggressions, as shown in Table 3.

Discussion

The primary aim of this study is to update information about rates of assault in the psychiatric training environment given that the most recent assessment of this data is 10 years old. Concern exists that rates of assault may have increased, given that increased rates have been measured among HCWs in other studies in this time period and especially during the COVID pandemic [8, 9]. This study found that nearly 80% of US psychiatric residents experienced at least one type of assault in a clinical setting during their training and the majority experienced at least one of these assaults in the past year. Verbal assault occurred most frequently, though alarmingly, 20% of residents had experienced physical assault, and 6% had experienced sexual assault. In contrast to the study

Table 3 Psychiatric residency program training experience

Question	%(*n*)
Has your program provided specific training in the following? (select all that apply)*	
Self-defense escape maneuvers	64.0% ($n=176$)
Verbal de-escalation training	77.1% ($n=212$)
Medication management for agitation	90.9% ($n=250$)
Post-event management/debriefing	48.0% ($n=132$)
None of these trainings	3.3% ($n=9$)
How useful was your overall training experience?**	
Extremely useful	13.8% ($n=35$)
Very useful	32.8% ($n=83$)
Moderately useful	34.4% ($n=87$)
Slightly useful	15.0% ($n=38$)
Not at all useful	4.0% ($n=10$)
Is there any established plan in your training program in case of patient aggression towards the physician?*	
Not at all	5.1% ($n=14$)
Some actions are usually taken, such as debriefing and defusing, but there is not an established plan	36.7% ($n=101$)
There is an established protocol to be followed	20.7% ($n=57$)
There is an established protocol, but it is not followed	1.1% ($n=3$)
I don't know	34.5% ($n=95$)
Other	0.4% ($n=1$)
Has your program provided you with specific training in the following? (Select all that apply)*	
Recognizing microaggressions and discriminatory behavior	54.2% ($n=149$)
How to respond to microaggressions and discriminatory behavior	38.5% ($n=106$)
Who you can talk with in your organization if these incidents occur	48.4% ($n=133$)
None of these	25.1% ($n=69$)

*Denominator for percentages is entire survey sample ($n=275$)

**Denominator for percentages is 253 people that answered the question

hypothesis, it appears that rates of physical assault may be slightly lower in the current sample than those in previous studies which ranged from 25% to 64% [4–7]. This decrease in prevalence could be due to increased education by training programs in the identification and treatment of agitation in the psychiatric population and improvements in clinical treatment guidelines since rates were last measured [19].

Additional data found in this study could alert psychiatry training programs to risk factors for violence against certain resident populations and the impact these assaults have on resident mental health and attitudes towards patients and their training institutions. Regarding demographic risk factors, LGBTQ + residents had a disproportionately high prevalence of sexual assault and men had a disproportionately high prevalence of physical assault. The major impacts of these assaults included anxiety, fear, feeling less empathy towards patients, and feeling a lack of support from the resident's institution.

Analysis of PTSD scores showed a large effect size for increased scores in residents experiencing sexual assault and a small effect size for increased scores in women. Being of minority race also resulted in higher average PTSD scores. Although this study is not able to determine the potential reasons for this finding, other studies have shown a similar pattern of higher PTSD rates in minority races in the US, which is thought to mostly be due to differences in life experiences and social determinants of health such as exposure to racial discrimination, increased risk of trauma throughout the lifespan, and structural racism [20–23].

The current study is unique in that it is the first attempt to quantify microaggressions experienced by US psychiatric residents during clinical training. Most participants (86.9%) reported having experienced microaggressions, with most of these relating to race, age, or gender, similar to studies seen in medical students and other residency training programs [14–16]. Those identifying as Black or Asian reported experiencing more microaggressions specifically about race compared to the rest of the sample. The most common impacts of these microaggressions were similar to those of assaults and included anxiety, rage, sadness, feeling less empathy towards patients, and feeling a lack of institutional support. Although most people experienced at least one type of microaggression, 25% of the sample reported they had not had any training on recognizing and responding to microaggressions.

As seen in other studies that examine reporting of workplace violence in clinical settings [10, 11], reporting rates were low among residents experiencing both assaults and microaggressions. Alarmingly, 27.2% of residents with an assault and 28.9% experiencing a microaggression did not report due to feeling it would be useless.

The findings of this US survey were similar to those found in European and Asian studies, particularly concerning the prevalence of verbal and sexual assault [12, 13]. However, this US sample had lower rates of physical assault among participants that reported experiencing any type of assault compared to the European and Asian samples (US 28.1%; Europe 44.1%; Asian 47.4%). The prevalence of physical assault observed in this study (22.2%) was similar to what was observed in a 2012 survey (25%) of US psychiatry residents [5]. The prevalence of physical assault was also lower than the range reported in a systematic review from nine studies of psychiatric resident programs including the US, New Zealand, and Canada [4].

A strength of this study is that it captured a similar race and ethnicity makeup compared to the 2020 American Psychiatric Association (APA) resident census [24] with 0.9% American Indian or Alaska Native (versus 1.5% in the current study), 23.0% Asian (versus 28.7%), 6.7% Black or African American (versus 6.5%), 8.8% Hispanic (versus 6.9%), 0.3% Pacific Islander (versus 0.4%), and 53.6% White (versus 55.6%).

However, this study has multiple inherent limitations. Participants were recruited for this study via an email from their residency coordinator due to a lack of a centralized group that allows for distribution of surveys to residency program directors or residents directly in the US. This limited data to only programs where the coordinators distributed the survey themselves. In addition, because the email explained that the study was about violence against psychiatric residents, those who had experienced violence in a clinical setting might have been more interested in taking the survey, introducing selection bias. Of the respondents, 63.6% identified as women in contrast to the most recent APA resident census, which showed only 48.9% of US psychiatry residents were women [24]. This could be another form of selection bias, in that women were more likely to engage in the survey either because they may have been more affected by assaults and microaggressions or some other unknown reasons. Based on the most recent APA resident census data, this sample captures around 4% of general US adult psychiatry residents [24]. This low response rate is a significant study limitation and results may not be generalizable to the experience of most residents and training programs. The study design was also vulnerable to recall bias. The survey asked participants about personal and work impacts of assault if they answered they had ever had any type of assault and did not differentiate the effects based on the type of assault (verbal, sexual, or physical). Therefore, the study was not able to examine if certain types of assault had differing effects upon participants.

The timing of our survey, from June to September of 2021, was not ideal in that many post-graduate year (PGY)-4 residents were graduating and likely chose not to respond due to competing life events such as moving, loss of academic program email address, and starting a new job or fellowship. Also, new PGY-1 residents who began training in

July of 2021 may have not yet had any negative experiences due to the limited amount of time they were in training during the survey period. An additional limitation is the clustering of responses by location with the highest number of responses coming from Texas, which has three programs with the highest number of first-year positions available from the 2022 FREIDA data [25]. COVID-19 pandemic dynamics during data collection in the summer of 2021 may have also affected patient behavior. Several studies report high levels of violence against HCWs during the pandemic, perhaps uniquely perpetrated by patient family members [26, 27]. Patients had fewer opportunities for family and friends to support them during this time due to restrictions on hospital visitation, which could result in a variety of behavioral outcomes, both for patients and the family members. The use of personal protective equipment during the pandemic may also have led to poorer relationships and less effective communication between doctors and patients. Patients also may have been more likely to be seen alone by the resident rather than with additional medical staff, which could have created a riskier situation for the resident. As in many experiments during this time frame, effects related to COVID-19 should be kept in mind about generalizability.

Although it appears rates of physical assault against psychiatric residents in the US have possibly decreased and are slightly lower than in other areas of the world, training programs should continue to invest in multiple approaches to help medical students and residents be prepared to interrupt, respond, and cope with these incidents. Examples include increasing the availability of attending doctors to residents which may help trainees learn how to identify patients beginning to become dangerously agitated and intervene before a serious assault occurs. This could include modeling of evidence-based verbal de-escalation techniques [28, 29]. Immediately available supervision may also help residents assess their feelings related to assault and countertransference reactions.

Two places where psychiatric residents are particularly vulnerable to assaults include the emergency department and inpatient psychiatric units. In the emergency department, researchers have implemented a framework of best practices that can be replicated in other hospital systems that incorporates evidence-based psychiatric evaluation, verbal de-escalation, and pharmacotherapy to improve agitation-related outcomes [30]. Several protocols for management of agitation in the adult psychiatric inpatient setting have also been used to identify early signs of agitation in the psychiatric hospital and institute prompt treatment, thereby preventing assaults and the need for coercive treatments such as forced medication and seclusion/restraint [31, 32]. Further research is needed to gauge the long-term effectiveness of these protocols. Other interventions could include didactic lectures and simulated training exercises on topics such as identifying the underlying etiologies of violence, the psychodynamics of aggression, enhancing environmental safety, safer behavioral restraint techniques with the goal of minimizing use of coercive measures, and self-defense techniques with an emphasis on anticipating and escaping assaults. Additionally, because less than half of assault incidents were reported by the residents, the importance of reporting should be emphasized and those to whom residents report may also require further training in how to take action. Residents should be reassured by training programs that they will not be viewed as over-reacting or blamed when assaults occur. A centralized and clear reporting process for assaults should be made available at all program training sites and residents should have access to and be informed of these statistics.

A growing literature also aims to provide training programs and residents with strategies to effectively respond to microaggressions in the clinical setting. A review article published in *Academic Psychiatry* in 2022 included 20 studies that outline recommendations for training programs to address microaggressions, support targeted trainees, and establish a supportive culture [33]. Other articles have been published to provide guidance for trainees on responding to microaggressions from patients and others in the healthcare workplace [34, 35]. Some training programs have also developed standardized patient simulations to address microaggressions [36–38], as well as emergency behavioral situations with psychiatry residents [39]. Psychiatry training directors who are members of the American Association of Directors of Psychiatric Training (AADPRT) can access valuable resources from the online virtual training office on managing microaggressions in psychotherapy and supporting residents who experience discrimination-based harassment from patients, supervisors, and staff [40]. They may also benefit from attendance at the annual AADPRT meeting where workshops on these topics are a regular occurrence.

In conclusion, these results gathered from US psychiatric residents highlight ongoing verbal, physical, and sexual assault in the clinical setting, and its resulting negative impacts. These results mirror both the European and Asian datasets, suggesting a potential global problem, likely related to the nature of psychiatric illness and treatment settings. These results also uniquely identify that microaggressions in the training environment are common and lead to similar negative emotional reactions and negative thoughts about patients and the profession. This highlights the potential benefit of including microaggression training in residency programs. Given that work-related assaults can lead to elevated anxiety, depression, and PTSD symptoms, programs should consider adding or expanding existing mental health assistance programs to residents. Future research should be developed to guide healthcare systems in ways to prevent and monitor patient aggression, better understand the

underlying causes, and provide treatment as needed. Training programs should continue to develop and maintain evidence-based educational efforts in these areas, develop clear protocols about how to respond to these incidents, and encourage resident reporting. Research is needed to assess if these educational efforts and protocols provide benefit in the long term.

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Declarations

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