



Risk Factors for Violence in Serious Mental Illness

SUMMARY

1. Most individuals with serious mental illness are not dangerous.
2. Most acts of violence are committed by individuals who are not mentally ill.
3. Individuals with serious mental illness are victimized by violent acts more often than they commit violent acts.
4. Being a young male or a substance abuser (alcohol or drugs) is a greater risk factor for violent behavior than being mentally ill.
5. No evidence suggests that people with serious mental illness receiving effective treatment are more dangerous than individuals in the general population.

That being said, a small number of individuals with serious mental illnesses commit acts of violence. Individuals who are not being treated commit almost all of these acts; many of them also abusing alcohol or drugs.

THE ASSOCIATION BETWEEN SERIOUS MENTAL ILLNESS AND ACTS OF VIOLENCE

- In 2015, Swanson and colleagues published a summary of studies on serious mental illness and violent behavior. They reported:

At least 20 studies have examined violence in patients with schizophrenia spectrum disorders in various clinical and community settings. A meta-analysis of this literature founded a reported risk of violence that was, on average, 3 to 5 times greater for men with schizophrenia, and 4 to 13 times greater for women with schizophrenia, compared with their counterparts without schizophrenia in the general population. The risk factor was higher for homicide as the violence outcome and for any violence when comparing patients with first-episode psychosis to population controls. The overall risk increase for violence was similar in bipolar disorder, where a recent meta-analysis synthesized nine studies and reported increased odd of violent outcomes in bipolar patients in the range of 3:1 to 6:1 compared with the general population.

Swanson, J.W., McGinty, E.E., Fazel, S., Mays, V.M. (2015). Mental illness and reduction of gun violence and suicide: Bringing epidemiologic research to policy. *Annals of Epidemiology*, 25, 366–376.

- A 2014 study by Fazel and colleagues examined 24,297 patients with schizophrenia and related psychoses in Sweden over 38 years (discharged from hospitals between 1972 and 2009). Within five



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years of first being diagnosed, 10.7% of men and 2.7% of women had been convicted of a violent offense (i.e., homicide, attempted homicide, assault, robbery, arson, any sexual offense or illegal threats or intimidation). The rate of violent offense by the patients with psychotic disorders was 4.8 times higher than among their siblings and 6.6 times higher than among matched controls in the general population. Most strikingly, over the 38 years, the incidence of violent behavior increased in direct proportion to the decrease in hospitalization time (i.e., “fewer annual inpatient nights were associated with more violence perpetrated by those with schizophrenia and related disorders”).

Fazel, S. Wolf, A., Palm, C., and Lichtenstein, P. (2014). Violent crime, suicide, and premature mortality in patients with schizophrenia and related disorders: A 38-year total population study in Sweden. *Lancet Psychiatry*, 1, 44–54.

- A meta-analysis of 20 studies on the relationship between schizophrenia and violence, including 18,423 patients with schizophrenia and related psychoses, reported that individuals with these diagnoses “are associated with violence and violent offending, particularly homicide,” and this was true for those with or without comorbid substance abuse.

Fazel, S., Gulati, G., Linsell, L., Geddes, J.R., Grann, M. (2009). Schizophrenia and violence: Systematic review and meta-analysis. *PLoS Medicine*, 6(8), e10000120.

- A meta-analysis of 204 studies of psychosis as a risk factor for violence reported that “compared with individuals with no mental disorders, people with psychosis seem to be at a substantially elevated risk for violence.” Psychosis “was significantly associated with a 49%–68% increase in the odds of violence.”

Douglas, K.S., Guy, L.S., Hart, S.D. (2009). Psychosis as a risk factor for violence to others: A meta-analysis. *Psychological Bulletin*, 135, 679–706.

- A review of 22 studies published between 1990 and 2004 “concluded that major mental disorders, per se, especially schizophrenia, even without alcohol or drug abuse, are indeed associated with higher risks for interpersonal violence.” Major mental disorders were said to account for between 5% and 15% of community violence.

Joyal, C.C., Dubreucq, J.-L., Gendron, C., Millaud, F. (2007). Major mental disorders and violence: A critical update. *Current Psychiatry Reviews*, 3, 33–50.

- Among 3,743 individuals with bipolar disorder, 8.4% committed violent crimes compared to 3.5% of the general population in Sweden.

Fazel, S., Lichtenstein, P., Grann, M., Goodwin, G.M., Långström, N. (2010). Bipolar disorder and violent crime. *Archives of General Psychiatry*, 67, 931–938.

- Of 8,003 individuals with schizophrenia in Sweden, 13.2% committed at least one violent crime compared with 5.3% of the general population. Concurrent abuse of alcohol or drugs accounted for much of the increased rate.

Fazel, S., Långström, N., Hjern, A., Grann, M., Lichtenstein, P. (2009). Schizophrenia, substance abuse, and violent crime. *Journal of the American Medical Association*, 301, 2016–2023.

- A 2014 study in Israel identified 3,187 patients with a diagnosis of schizophrenia. They committed four times more violent crimes compared to the general population, and this difference was even more pronounced among women.



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Fleischman, A., Werbeloff, N., Yoffe, R., Davidson, M., Weiser, M. (2014). Schizophrenia and violence: A population-based study. *Psychological Medicine*, 44, 3051–3057.

- Data on mental disorders and violence were collected on 34,653 individuals as part of the US National Epidemiologic Survey on Alcohol and Related Conditions. An analysis of the data by Elbogen and Johnson found that “the incidence of violence was higher for people with severe mental illness, but only significantly so for those with co-occurring substance abuse and/or dependence.” According to a later analysis by Van Dorn and colleagues, which was critical of the first analysis, “those with SMI [serious mental illness], irrespective of substance abuse status, were significantly more likely to be violent than those with no mental or substance use disorders.”

Elbogen, E.B., Johnson, S.C. (2008). The intricate link between violence and mental disorder. *Archives of General Psychiatry*, 66, 152–161.

Van Dorn, R., Volavka, J., Johnson, N. (2012). Mental disorder and violence: Is there a relationship beyond substance use? *Social Psychiatry and Psychiatric Epidemiology*, 47, 487–503.

- A 2013 study in Australia reported that individuals with schizophrenia were four times more likely to be guilty of a violent offense compared to a matched community sample. When all individuals with comorbid substance abuse were removed from the schizophrenia sample, those without substance abuse still were more than twice as likely to be guilty of a violent offense compared to the matched community sample. The authors concluded that their study “discredits the notion that the increased prevalence of violence in schizophrenia can be solely attributed to substance abuse.”

Short, T., Thomas, S., Mullen, P., Ogloff, J.R. (2013). Comparing violence in schizophrenia patients with and without comorbid substance-use disorders to community controls. *Acta Psychiatrica Scandinavica*, 128, 306–313.

- After reviewing the psychiatric literature from 1970 to 2007, Taylor concluded that “sound epidemiologic research has left no doubt about a significant relation between psychosis and violence, although one accounting for little of society’s violence.” The author also noted that “when violence is a problem, individuals in the immediate social circle of an individual suffering from psychosis are most at risk.”

Taylor, P.J. (2008). Psychosis and violence: Stories, fears, and reality. *Canadian Journal of Psychiatry*, 53, 647–659.

- A study in Ohio compared 122 patients with schizophrenia who had committed violent acts with 111 patients with schizophrenia who had not committed such acts. The violent patients had significantly more prominent symptoms and significantly less awareness of their illness.

Friedman, L., Hrouda, D., Noffsinger, S., Resnick, P., Buckley, P.F. (2003). Psychometric relationships of insight in patients with schizophrenia who commit violent acts. *Schizophrenia Research*, 60, 81.

- A study of 961 young adults in New Zealand reported that individuals with schizophrenia and associated disorders were 2.5 times more likely than controls to have been violent in the past year. If the person was also a substance abuser, the incidence of violent behavior was even higher.

Arseneault, L., Moffitt, T.E., Caspi, A., Taylor, P.J., Silva, P.A. (2000). Mental disorders and violence in a total birth cohort. *Archives of General Psychiatry*, 57, 979–986.



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- A study of 63 inpatients with schizophrenia in Spain reported that the best predictors of violent behavior were being sicker (i.e., higher scores on symptom measures) and less insight into illness: "The single variable that best predicted violence was insight into psychotic symptoms."

Arango, C., Barba, A.C., Gonzalez-Salvador, T., Calcedo Ordóñez, A. (1999). Violence in inpatients with schizophrenia: A prospective study. *Schizophrenia Bulletin*, 25, 493–503.

- A 10-year follow-up of 1,056 severely mentally ill patients discharged from mental hospitals in Sweden in 1986 reported that "of those who were 40 years old or younger at the time of discharge, nearly 40% had a criminal record as compared to less than 10% of the general public." Furthermore, "the most frequently occurring crimes are violent crimes."

Belfrage, H. (1998). A ten-year follow-up of criminality in Stockholm mental patients. *British Journal of Criminology*, 38, 145–155.

- A study of 331 individuals with severe mental illness in the United States reported that 17.8% "had engaged in serious violent acts that involved weapons or caused injury." The researchers also found that "substance abuse problems, medication noncompliance, and low insight into illness operate together to increase violence risk."

Swartz, M.S., Swanson, J.W., Hiday, V.A., Borum, R. Wagner, H.R., Burns, B.J. (1998). Violence and severe mental illness: The effects of substance abuse and nonadherence to medication. *American Journal of Psychiatry*, 155, 226–231.

- In a study in Finland, an unselected birth cohort of 11,017 individuals was followed for 26 years. Men with schizophrenia without alcoholism were 3.6 times more likely to commit a violent crime than men without a psychiatric diagnosis. Men with both schizophrenia and alcoholism were 25.2 times more likely to commit a violent crime.

Rasanen, P., Tiihonen, J., Isohanni, M., Rantakallio, P., Lehtonen, J., Moring, J. (1998). Schizophrenia, alcohol abuse, and violent behavior: A 26-year follow-up study of an unselected birth cohort. *Schizophrenia Bulletin*, 24, 437–441.

- Limited data are available that can be used to estimate the percentage of severely mentally ill individuals who become violent. The best study used the Danish psychiatric case register, covering the whole country, and convictions for criminal offenses. Between 1978 and 1990, 6.7% of males and 0.9% of females with "major mental disorders" (psychoses) were convicted of a violent crime ("all offenses involving interpersonal aggression or a threat thereof") compared with 1.5% of males and 0.1% of females among individuals with no psychiatric diagnosis. This analysis only used convictions; thus it can be assumed that another unknown percentage committed a violent act for which they were not charged or convicted.

Hodgins, S., Mednick, S.A., Brennan, P.A., Schulsinger, F., Engberg, M. (1996). Mental disorder and crime: Evidence from a Danish birth cohort. *Archives of General Psychiatry*, 53, 489–496.

- A study in Switzerland compared 282 men with schizophrenia with a matched control group in the general population. The patients were found five times more likely to have been convicted of violent crimes, mostly "assaults resulting in bodily harm." The more acutely ill the patient was, the more likely he was to have been violent.



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Modestin, J., Ammann, R. (1996). Mental disorder and criminality: Male schizophrenia. *Schizophrenia Bulletin*, 22, 69–82.

- A study of 538 individuals with schizophrenia living in London reported the risk of conviction for assault and serious violence was 3.9 times higher in men with serious mental illness and 5.3 times in women when compared to control groups with other psychiatric diagnoses.

Wesseley, S.C., Castle, D., Douglas, A.J., Taylor, P.J. (1994). The criminal careers of incident cases of schizophrenia. *Psychological Medicine*, 24, 483–502.

- A Swedish study examined the criminal records of all individuals born in Stockholm in 1953 and still living in the city 30 years later. Men and women with severe mental illness were 4.2 times (men) and 27.5 times (women) more likely to have been convicted of a violent crime compared to individuals with no psychiatric diagnosis.

Hodgins, S. (1992). Mental disorder, intellectual deficiency, and crime. *Archives of General Psychiatry*, 49, 476–483.

- In a follow-up of patients released from a psychiatric hospital, Dr. Henry Steadman and Dr. John Monahan reported that "27% of released male and female patients report at least one violent act within a means of four months after discharge."

Monahan, J., Steadman, H.J. (1996). *Violence and Mental disorder: Developments in Risk Assessment*. Chicago: The University of Chicago Press.

- In a carefully controlled study comparing individuals with severe mental illness living in the community in New York with other community residents, the former group was found to be three times more likely to commit violent acts such as weapons use or "hurting someone badly." The sicker the individual, the more likely he or she had been violent.

Link, B.G., Andrews, H., Cullen, F.T. (1992). The violent and illegal behavior of mental patients reconsidered. *American Sociological Review*, 57, 275–292.

- In reviewing many of these studies, in 1992 Dr. John Monahan, PhD concluded:

The data that have recently become available, fairly read, suggest the one conclusion I did not want to reach: Whether the measure is the prevalence of violence among the disordered or the prevalence of disorder among the violent, whether the sample is people who are selected for treatment as inmates or patients in institutions or people randomly chosen from the open community, and no matter how many social and demographic factors are statistically taken into account, there appears to be a relationship between mental disorder and violent behavior.

Monahan, J. (1992). Mental disorder and violent behavior. *American Psychologist*, 47, 511–521.

- A 1990 study investigated violent behavior among severely mentally ill individuals in 1,401 randomly selected families who were members of the National Alliance for the Mentally Ill (NAMI). In the preceding year, 11% of these individuals were reported to have physically harmed another person.

Steinwachs, D.M., Kasper, J.D., Skinner, E.A. (1992). *Family perspectives on meeting the needs for care of severely mentally ill relatives: A national survey*. Arlington, VA: National Alliance for the Mentally Ill.



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- The ECA surveys carried out from 1980 to 1983 reported much higher rates of violent behavior among individuals with severe mental illness living in the community compared to other community residents. For example, individuals with schizophrenia were 21 times more likely to have used a weapon in a fight.

Swanson, J.W., Hozer, C.D., Ganju, V.K., Jono, R.T. (1990). Violence and psychiatric disorder in the community: Evidence from the Epidemiologic Catchment Area surveys. *Hospital and Community Psychiatry, 41*, 761–770.

- A Swedish study of 644 individuals with schizophrenia followed for 15 years reported they committed violent offenses at a rate four times greater than the general population.

Lindqvist, P., Allebeck, P. (1990). Schizophrenia and crime: A longitudinal follow-up of 644 schizophrenics in Stockholm. *British Journal of Psychiatry, 157*, 345–350.

- In reviewing early studies on discharged psychiatric patients, Dr. Judith Rabkin, PhD, concluded: "Arrest and conviction rates for the subcategory of violent crimes were found to exceed general population rates in every study in which they were measured."

Rabkin, J. (1979). Criminal behavior of discharged mental patients: A critical appraisal of the research. *Psychological Bulletin, 86*, 1–27.

VIOLENCE AND UNTREATED MENTAL ILLNESS

Most acts of violence committed by individuals with serious mental illness are carried out when they are not being treated.

- A 2014 study in Sweden linked the psychiatric and criminal national registers. It included 82,647 patients who were prescribed antipsychotic or mood-stabilizing medication. It thus could track when patients were and were not taking their medication. The authors reported that "compared with periods when participants were not on medication, violent crime fell by 45% in patients receiving antipsychotics . . . and by 24% in patients prescribed mood stabilizers."

Fazel, S., Zetterqvist, J., Larsson, H., Långström, N., Lichtenstein, P. (2014). Antipsychotics, mood stabilisers, and risk of violent crime. *Lancet, 374*, 1206–1214.

- A 2014 study from Denmark and Norway followed 178 individuals with first-episode psychosis and assessed violent behavior over 10 years. The researchers reported that "after treatment initiatives, the overall prevalence of violence in psychotic patients drops gradually to rates close to those of the general population."

Langeveld, J., Bjørkly, S., Auestad, B., Barder, H., Evensen, J., Ten Velden Hegelstad, W., et al. (2014). Treatment and violent behavior in persons with first episode psychosis during a 10-year prospective follow-up study. *Schizophrenia Research, 156*, 272–276.

- A 2013 meta-analysis of 110 studies, which included 45,533 individuals with schizophrenia and other psychoses, identified several risk factors for violent behavior: non-adherence with medication, non-adherence with psychological therapies, drug abuse and alcohol abuse.



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Witt, K., van Dorn, R., Fazel, S. (2013). Risk factors for violence in psychosis: Systematic review and meta-regression analysis of 110 studies. *PLoS ONE*, 8, e55942.

- Researchers in Turkey examined 49 individuals with schizophrenia who had committed homicide. They reported that 42 of the 49 “were not using their medication regularly and that treatment compliance was considerably low.”

Belli, H., Ozcetin, A., Erteum, U., Tuyluglu, E., Namli, M., Bayik, Y., et al. (2010). Perpetrators of homicide with schizophrenia: Sociodemographic characteristics and clinical factors in the eastern region of Turkey. *Comprehensive Psychiatry*, 51, 135–141.

- Meta-analyses of studies of individuals with serious mental illness who commit acts of violence, including homicides, indicate a disproportionate number of these acts occur during the person’s first psychotic episode (i.e., before they have been treated).

Large, M.M., Nielssen, O. (2010). Violence in first-episode psychosis: A systematic review and meta-analysis. *Schizophrenia Research*, 125, 208–220.

Nielssen, O., Large, M. (2010). Rates of homicide during the first episode of psychosis and after treatment: A systematic review and meta-analysis. *Schizophrenia Bulletin*, 36, 702–712.

- A study in New York assessed 60 severely mentally ill men who had been charged with violent crimes. The author reported that medication non-compliance and lack of awareness of illness both played significant roles in causing the men’s violent behavior.

Alia-Klein, N., O’Rourke, T.M., Goldstein, R.Z., Malaspina, D. (2007). Insight into illness and adherence to psychotropic medications are separately associated with violence severity in a forensic sample. *Aggressive Behavior*, 33, 86–96.

- A study of 907 individuals with severe mental illness reported that those who were violent were “more likely to deny needing psychiatric treatment.” The authors concluded “clinical interventions that address a patient’s perceived need for psychiatric treatment, such as compliance therapy and motivational interviewing, appear to hold promise as risk management strategies.”

Elbogen, E.B., Mustillo, S., Van Dorn, R., Swanson, J.W., Swartz, M.S. (2007). The impact of perceived need for treatment on risk of arrest and violence among people with severe mental illness. *Criminal Justice and Behavior*, 34, 197–210.

- A study of 1,011 outpatients with severe psychiatric disorders in five states reported that “community violence was inversely related to treatment adherence”; that is, the less medication individuals took, the more likely they were to become violent.

Elbogen, E.B., Van Dorn, R.A., Swanson, J.W., Swartz, M.S., Monahan, J. (2006). Treatment engagement and violence risk in mental disorders. *British Journal of Psychiatry*, 189, 354–360.

- A four-state (New Hampshire, Connecticut, Maryland and North Carolina) study of 802 adults with severe mental illness (64% schizophrenia or schizoaffective disorder, 17% bipolar disorder) reported that 13.6% had been violent within the previous year. *Violent* was defined as “any physical fighting or assaultive actions causing bodily injury to another person, any use of lethal weapon to harm or threaten someone or any sexual assault during that period.” Those who had been violent were more likely to have been homeless, to be substance abusers, and to be living in a violent environment. Those who had been violent were also 1.7 times more likely to have been noncompliant with medications.



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Swanson, J.W., Swartz, M.S., Essock, S.M., Osher, F. C., Wagner, H.R., Goodman, L.A., et al. (2002). The social–environmental context of violent behavior in persons treated for severe mental illness. *American Journal of Public Health, 92*, 1523–1531.

- In a three-site MacArthur Foundation study of violence and mental illness, 17.4% of the patients were violent in the 10-week period prior to hospitalization, during which time they were not being treated. In the 10-week periods following discharge from hospitalization, a period when most of them *were* being treated, an average of 8.9% were violent.

Steadman, H.J., Mulvey, E.P., Monahan, J., Robbins, P.C., Appelbaum, P.S., Grisso, T., et al. (1998). Violence by people discharged from acute psychiatric inpatient facilities and by others in the same neighborhoods. *Archives of General Psychiatry, 55*, 393–401.

- A study of 331 individuals with serious mental illness in North Carolina reported that “the combination of medication non-compliance and substance-abuse was a significant predictor of serious violent acts in the community.”

Swartz, M.S., Swanson, J.W., Hiday, V.A., Borum, R., Wagner, R., Burns, B.J. (1998). Taking the wrong drugs: The role of substance abuse and medication noncompliance in violence among severely mentally ill individuals. *Social Psychiatry and Psychiatric Epidemiology, 33*, S75–S80.

- An English study of 1,015 forensic patients with severe mental illness (“functional psychosis”) reported that the diagnosis of “schizophrenia was most strongly associated with personal violence” and that “more than 75% of those with a psychosis were recorded as being driven to offend by their delusions.” The authors concluded that “treatment appears as important for public safety as for personal health.”

Taylor, P.J., Leese, M., Williams, D., Butwell, M., Daly, R., Larkin, E. (1998). Mental disorder and violence. *British Journal of Psychiatry, 172*, 218–226.

- A study of 348 inpatients in a Virginia state psychiatric hospital found that patients who refused to take medication “were more likely to be assaultive, were more likely to require seclusion and restraint, and had longer hospitalizations.”

Kasper, J.A., Hoge, S.K., Feucht-Haviar, T., Cortina, J., Cohen, B. (1997). Prospective study of patients’ refusal of antipsychotic medication under a physician discretion review procedure. *American Journal of Psychiatry, 154*, 483–489.

- In an analysis of data from the ECA study, the authors noted that “mentally ill individuals with no treatment contact in the past six months had significantly higher odds of violence in the long term” and that “moderate levels of agitation and psychoticism increase the risk of violence.” They then concluded: “This would seem to provide a strong argument for providing more interventions targeted specifically to persons with combined mental illness and addictive disorders who are likely not to comply voluntarily with conventional outpatient therapies.”

Swanson, J.W., Estroff, S., Swartz, M., Borum, R., Lachiotte, W., Zimmer, C. (1997). Violence and severe mental disorder in clinical and community populations: The effects of psychotic symptoms, comorbidity, and lack of treatment. *Psychiatry, 60*, 1–22.

- A study of 133 outpatients with schizophrenia showed that “13% of the study group were characteristically violent.” Having inadequately treated symptoms of delusions and hallucinations was one of the predictions of violent behavior. Specifically, “71% of the violent patients . . . had problems



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with medication compliance, compared with only 17% of those without hostile behaviors," a difference that was statistically highly significant ($p < 0.001$).

Bartels, J., Drake, R.E., Wallach, M.A., Freeman, D.H. (1991). Characteristic hostility in schizophrenic outpatients. *Schizophrenia Bulletin*, 17, 163–171.

- A study of severely mentally ill patients in a state forensic hospital found a highly significant correlation ($p < 0.001$) between failure to take medication and a history of violent acts in the community.

Smith, L.D. (1989). Medication refusal and the rehospitalized mentally ill inmate. *Hospital and Community Psychiatry*, 40, 491–496.

- A study of inpatients diagnosed with schizophrenia reported an inverse correlation between their propensity to violence and their blood level of antipsychotic medication.

Yesavage, J.A. (1982). Inpatient violence and the schizophrenic patient: An inverse correlation between danger-related events and neuroleptic levels. *Biological Psychiatry*, 17, 1331–1337.