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Delinquency, Depression, and Psychosis Among Adolescents in Foster Care: What Holds Three Heads Together?

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Child psychopathology research has traditionally distinguished between internalizing and externalizing disorders, with the former treated with interventions that focus on alleviating negative internal states, and the latter with interventions that reward prosocial behavior and attempt to extinguish negative behavior. Not all disorders fall neatly into these categories, of course. Psychosis could be seen as an externalizing disorder (e.g., patients who become violent when hearing threatening voices) or an internalizing disorder (e.g., believing one is being punished). Multidimensional Treatment Foster Care (MTFC), a comprehensive care system for delinquent girls, appears to have beneficial effects on delinquency, depression, and subthreshold psychotic symptoms over 2 years. Although treatments that have nonspecific benefits might undermine the view that specific disorders have unique causal mechanisms, they are welcome in public health settings, where pure clinical presentations are rare.¹

In the well-done study by Poulton *et al.*² in this issue of the *Journal*, 166 girls (13–17 years of age) who had been arrested at least once in the prior 12 months and placed in out-of-home foster care were randomly assigned to MTFC or a group care as usual treatment. Unlike prior “ultra high-risk” studies, the sample was not selected for psychosis symptoms but had historical risk factors (i.e., childhood abuse and neglect) and current diagnoses (i.e., conduct disorder) that are related to psychosis onset. Although the primary purpose of MTFC was to decrease delinquency, the investigators observed secondarily that girls showed decreases in subthreshold psychotic symptoms.

MTFC was implemented in 22 group homes in which foster parents were trained and supervised to implement a reinforcement model. The adolescents attended public school and received concurrent individual therapy. After an average 6-month stay, adolescents returned to parents (or other caregivers) who were trained in effective parenting skills (e.g., consistency, non-harsh discipline) in a family-therapy format. Thus, the program aimed to change the context in which delinquent behaviors developed, first by providing a new home environment and then by modifying the old one. Participants in the group care condition

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lived in 1 of 35 intensive care settings, where they received at least weekly services and off- or on-grounds schooling.

Over 24 months, adolescents in MTFC had a steeper decline in psychotic symptom severity and roughly half the number of psychotic symptoms compared with adolescents in group care. Psychotic symptoms were measured from the Brief Symptom Inventory (5 items) and the Diagnostic Interview Schedule for Children–IV Psychotic Symptoms scale. The Brief Symptom Inventory included the items “feeling lonely even when you are with people” and “never feeling close to another person.” Psychosis and depression are both characterized by emotional withdrawal, and in this sense, it is not surprising that a treatment that decreased depression also would decrease subthreshold psychosis.

The results are consistent with those from a randomized trial of family-focused therapy (FFT) for adolescents and young adults who were selected for having subclinical psychotic symptoms and functional deterioration.³ In that study, high-risk participants showed greater decreases in positive symptoms over 6 months and more productive problem solving with parents if they received FFT compared to a brief (3-session) educational treatment.^{3,4} We do not know how many of the adolescents or young adults in either trial would have gone on to develop schizophrenia, or whether that number is smaller in the experimental treatment conditions. Nonetheless, Poulton *et al.*² have extended the prior literature by showing that a multi-component skills-oriented treatment is effective in decreasing positive psychotic symptoms even in adolescents who are not selected for this feature.

What might be a common mechanism that would tie together the multiple outcomes affected by MTFC in this study? The investigators hypothesize that decreases in negative expressed emotion in home environments and decreasing delinquent and depressive behaviors might have decreased the adolescents’ reactivity to stress and overall stress burden. In a stress-generation framework,⁵ the behavior of girls with depression and delinquency creates stressful life events (e.g., rejection by romantic partners), leading to more negative thinking patterns and selective memory for other negative events, a gradual withdrawal of external social supports, and an increase in depression, suspiciousness, and alienation from others. Indeed, one can easily understand how the belief that one is being punished (a psychosis item on the Brief Symptom Inventory) could seem like a reality to girls who have been abused, neglected, and sent out of the home for treatment.

Taking this framework a step further, depression, delinquency, and psychosis in adolescents could be connected by the trait of affective instability, usually defined as frequent shifts in emotional states, high-intensity reactions to psychosocial events or interpersonal circumstances, and a slow rate of return to one’s emotional baseline.⁶ Mood instability, a related construct studied mainly in relation to bipolar disorder and borderline personality disorder, is an equally strong risk factor for psychosis. In a UK longitudinal study involving more than 2,400 persons, mood instability was strongly associated with the inception of psychotic symptoms at 18 months and mediated the relation between early childhood adversity and later onset of paranoia and hallucinations.⁷ Moreover, increased stress reactivity—defined as moment-to-moment affective and cognitive changes in response to daily events—distinguishes women with remitted psychosis and their relatives without

psychosis from healthy controls.⁸ Stress reactivity also might reflect the psychological effects of a history of childhood trauma,⁹ as in the case of adolescents in the MTFC study.

The behaviors of parents subsumed under the heading of high expressed emotion—high rates of criticism of the offspring's behavior, hostility, or exaggerated emotional responses to the adolescent's symptoms—could reflect cross-generationally shared traits such as affective instability or stress sensitivity. Treatments such as MTFC and FFT emphasize monitoring moods, becoming aware of triggers for one's own or others' mood shifts, and learning effective strategies for regulating one's emotions or assisting others in regulating theirs. Achieving these goals requires that family members recognize their role in aversive family interactions and adopt skills for communicating and negotiating with other family members more effectively.

Future advances in this area could come from measuring individual change at the level of neural functioning. Magnetic resonance imaging studies have begun to identify abnormalities in neural activation (e.g., amygdala/prefrontal cortical connectivity) and structure (e.g., gray matter loss) in youth who go on to develop psychosis.¹⁰ Examining changes in neural activity from before to after psychosocial treatments and the correlation of these changes with improvements in delinquency, depression, or psychosis symptoms might clarify mediating processes in the pathways between treatment and short-term outcomes. Over the long term, approaches that address affective instability and its neural underpinnings could decrease transitions to syndromal psychosis and suffering at the individual and familial levels.

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