

Age Mixing and Risk Behaviors in Algerian Middle Schools: Three Clinical Case Formulations of Delinquency and Substance Use

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Abstract

Basic education in Algeria includes five years of primary education followed by four years of lower secondary education. This structure may place first-year middle school students, often around 11 years of age, in shared school spaces with older adolescents who may be 14 to 16 years old. The present article reformulates three illustrative clinical cases to examine how age-mixed educational settings may contribute to exposure to older peer models associated with truancy, smoking, alcohol use, aggression, and vandalism. The analysis draws on social learning theory, ecological systems theory, peer contagion, identity development, and research on older peer affiliation. The cases suggest that age mixing should not be treated as a single causal factor; rather, it may become a risk condition when combined with weak supervision, limited school counseling, insufficient parental monitoring, and developmental vulnerabilities related to identity formation and self-regulation. Multilevel interventions are therefore recommended, including school-space organization, refusal-skills training, parental guidance, gender-sensitive counseling, structured after-school activities, and closer collaboration between families, schools, and community institutions. The article concludes that age-mixed school environments require preventive psychological and educational planning, especially during the transition from primary to middle education.

Keywords: age mixing; middle school; peer contagion; delinquency; substance use; adolescent development; Algeria

Introduction

In the Algerian educational system, primary education lasts five years and is generally intended for children aged 6 to 11, while lower secondary education lasts four years and includes students from early to middle adolescence (Nuffic, n.d.). This organization means that students entering the first year of middle school may share the same institutional environment with fourth-year students who are several years older. In some cases, grade repetition may further widen the age gap, bringing 11- or 12-year-old pupils into contact with adolescents aged 15 or 16.

From a developmental psychology perspective, this age difference is not merely administrative. The transition from primary to middle school coincides with major changes in identity formation, emotional regulation, peer orientation, autonomy, and sensitivity to social status. Younger pupils may therefore be especially vulnerable to older peer influence when school

routines do not provide adequate supervision, protective adult relationships, or structured alternatives to informal peer groups.

The purpose of this article is to present three clinical case formulations illustrating how age mixing in middle school may be associated with risk pathways toward delinquency-related behavior and substance use. The article does not claim that age mixing alone causes delinquency or substance use. Rather, it analyzes how age mixing may interact with peer modeling, perceived norms, family monitoring, school organization, and individual developmental factors. The cases are interpreted through established psychological concepts and empirical findings, while avoiding unsupported causal conclusions.

Methodological and Ethical Note

The cases below are presented as illustrative clinical vignettes. The names are pseudonyms, and the descriptions are formulated for academic and preventive purposes. Because the article is based on a small number of cases, the findings cannot be generalized to all Algerian middle schools and cannot establish causal relationships. A clinical case formulation can organize risk and protective factors, but it should not be treated as a substitute for systematic empirical research, standardized assessment, or longitudinal data.

The language used in this revised version avoids stigmatizing the students. Behaviors such as truancy, smoking, aggression, or vandalism are interpreted as developmental and contextual outcomes rather than as fixed personal traits. This distinction is essential in psychological writing because it keeps the analysis focused on modifiable mechanisms, including peer influence, supervision, identity development, and access to support.

Conceptual Framework

Several psychological perspectives are relevant to understanding the cases. Social learning theory emphasizes that children and adolescents acquire behaviors by observing and imitating models, especially when those behaviors appear to produce social rewards such as status, belonging, or peer approval (Bandura, 1977). In a mixed-age school environment, older students may therefore become salient behavioral models for younger pupils, particularly when adult supervision is limited.

Peer contagion and perceived peer norms are also central to the analysis. Research on adolescent risk behavior indicates that affiliation with deviant peers is associated with substance use and delinquency-related outcomes, and that adolescents' perceptions of what their peers do may influence their own behavior (Ferguson & Meehan, 2011; Hinnant et al., 2019). These processes are especially important during early adolescence, when the desire for acceptance and social status can become stronger than compliance with adult expectations.

Ecological systems theory provides a broader framework by locating the child within interconnected systems such as family, school, peer group, neighborhood, and community institutions (Bronfenbrenner, 1979). In this view, risk emerges not from a single factor but from the interaction between individual developmental needs and the surrounding social ecology. Supportive relationships with parents, teachers, and peers may function as protective factors,

whereas weak supervision and limited school support may intensify exposure to risk (Butler et al., 2022).

Finally, identity development is relevant because early adolescence involves experimentation with roles, social belonging, and self-definition (Erikson, 1968). When younger students interpret older peers as more mature or socially powerful, they may adopt behaviors that symbolize adulthood, masculinity, independence, or group loyalty, even when these behaviors are developmentally inappropriate or harmful.

Case 1: Omar — Searching for Belonging in a Mixed-Age Environment

Case Summary

Omar is an 11-year-old first-year middle school student. The name is fictitious. During primary school, he was described as quiet and socially reserved. After entering middle school, however, teachers observed a marked change in his behavior: he began skipping classes, engaging in fights, and spending time with older boys. Toward the end of the first term, Omar was found smoking behind the school with fourth-year students.

Psychosocial Context

Omar comes from a working-class family in which both parents are employed. Although employment is not itself a risk factor, the family context limited continuous supervision after school and during unsupervised periods. Within the school environment, Omar appeared to associate smoking and truancy with social status. He also expressed a desire to be seen as 'a man,' suggesting that peer approval and masculine identity played an important role in his behavior.

Psychological Formulation

Omar's case can be understood through social learning theory. The older students provided visible behavioral models: they smoked, skipped classes, and appeared to gain peer recognition. For a younger pupil seeking belonging, these behaviors may have become symbols of maturity and status. This interpretation does not imply that Omar had an established delinquent identity before entering middle school; rather, the school context may have introduced models and reinforcements that made risk behavior more attractive.

The case also illustrates the interaction between socialization and selection. Omar did not necessarily choose deviant peers because of a preexisting delinquent tendency. Instead, the school structure placed him in proximity to older adolescents, and repeated contact may have encouraged socialization into their norms. Research on peer influence suggests that exposure to deviant peer behavior can increase risk when adolescents perceive such behavior as common, rewarded, or socially meaningful (Hinnant et al., 2019).

Developmentally, Omar's difficulty resisting peer pressure should be interpreted cautiously. At 11 years of age, inhibitory control and long-term consequence evaluation are still developing. Therefore, the clinical focus should not be on blaming the student but on strengthening self-regulation, refusal skills, adult monitoring, and school-based protection.

Recommended Interventions

- Provide refusal-skills training focused on saying no, managing pressure from older students, and recognizing risky invitations.
- Assign Omar to regular sessions with a school psychologist or counselor to develop a positive identity that is not dependent on deviant peer approval.
- Involve parents through brief guidance sessions on supervision, communication, and monitoring of after-school activities.
- Reduce unstructured contact between first-year students and older students by adjusting schoolyard supervision, breaks, or spatial organization.

Case 2: Laila — Early Maturation and Older Peer Affiliation

Case Summary

Laila is an 11-year-old first-year middle school student. The name is a pseudonym. Compared with many classmates, she appeared to experience earlier physical maturation. Shortly after entering middle school, older boys began sending her messages and asking to meet after school. Over time, her academic performance declined, her absences increased, and her parents discovered that she had begun consuming alcohol with older peers.

Social and Psychological Context

Laila increasingly described herself as closer to older students and referred to classmates of the same age as 'little girls.' This language suggests a shift in self-perception and group identification. Her parents assumed that the school environment was sufficiently safe, and the school did not appear to have specialized programs addressing age mixing, early maturation, or gender-specific vulnerabilities. The absence of a female counselor further limited opportunities for developmentally sensitive support.

Psychological Formulation

Laila's case can be interpreted through the lens of identity development. During early adolescence, physical changes may intensify questions about self-image, belonging, and social status. If a young girl is physically perceived as older than her chronological age, she may be drawn toward older peers in an attempt to align her social identity with her developing body. Erikson's concept of identity versus role confusion is useful here because Laila appears to be negotiating competing identities: same-age pupil, physically maturing adolescent, and member of an older peer group (Erikson, 1968).

Research on older peer affiliation indicates that having older friends can be associated with higher exposure to smoking, alcohol use, violence, and other risk behaviors (Velazquez et al., 2011). However, the clinical interpretation should remain cautious. Laila's alcohol use should not be explained by early maturation alone. Rather, it appears to have emerged from the interaction of early maturation, attention from older students, perceived group belonging, limited supervision, and insufficient school-based guidance.

The role of perceived norms is especially important. If Laila believed that alcohol use was typical or expected among older peers, this perception may have shaped her behavior even if not

all older students engaged in alcohol use. For prevention, it is therefore important to correct misperceptions, build assertiveness, and provide age-appropriate support for girls experiencing early maturation.

Recommended Interventions

- Create girls' support groups led by a trained female counselor to discuss physical development, boundaries, peer pressure, and safe relationships.
- Provide parent guidance on supportive monitoring of mobile-phone use, social media contact, and after-school movement without relying on punitive control alone.
- Develop school procedures for reporting unwanted contact from older students and for protecting younger pupils from coercive peer pressure.
- Implement alcohol-prevention sessions for first-year students, with attention to perceived norms, refusal skills, and the risks of older peer affiliation.

Case 3: Sami — Violence, Vandalism, and Negative Status Seeking

Case Summary

Sami is a 12-year-old first-year middle school student. The name is fictitious. He lives in a working-class neighborhood and has repeatedly been involved in group fights with older students. He has also been disciplined for vandalizing school property. Teachers reported deterioration in his academic performance, increased verbal aggression, and frequent contact with older adolescents aged approximately 15 to 16, including some students who had repeated a grade or were disengaged from school.

Social and Educational Context

Sami's after-school environment offered few structured study or recreational opportunities. His father was unemployed, and his mother's work schedule limited supervision. Some of Sami's street peers appeared to treat fighting and vandalism as sources of entertainment or status. Teachers noted that he had been more attentive in primary school, suggesting that the transition to middle school and the wider peer ecology may have contributed to his behavioral shift.

Psychological Formulation

Sami's behavior can be understood as a form of negative status seeking within a peer group that rewards aggression. Rather than interpreting violence as a stable trait, a psychological formulation examines how aggressive behavior may be learned, reinforced, and normalized through repeated interaction with older peers. Research on peer effects shows that younger students exposed to older and more behaviorally problematic peers may become more vulnerable to disciplinary difficulties (MacCoun et al., 2008).

From an ecological perspective, Sami's risk pathway reflects a weak protective network across home, school, and community. The family context had limited capacity for supervision; the school environment allowed repeated contact with older aggressive peers; and the neighborhood context provided few structured alternatives. These conditions likely increased the influence of the peer microsystem. In this formulation, intervention should target both the student and the environments that reinforce aggression.

Sami's academic decline is also clinically meaningful. School failure can increase frustration, reduce attachment to school, and make deviant peer approval more attractive. Addressing aggression without addressing academic disengagement and social belonging would therefore provide only a partial intervention.

Recommended Interventions

- Enroll Sami in structured after-school sports, arts, or supervised clubs that provide status and belonging through prosocial activity.
- Offer cognitive-behavioral sessions focused on anger management, impulse control, problem solving, and nonviolent conflict resolution.
- Provide family support aimed at improving supervision, communication, and coordination between home and school.
- Strengthen school supervision during arrival, breaks, dismissal, and other unstructured periods where older peers may influence younger students.

Cross-Case Discussion

Across the three cases, several shared mechanisms can be identified. First, age mixing created repeated opportunities for younger students to interact with older adolescents whose behaviors were not developmentally appropriate models for them. This does not mean that all older students are harmful; rather, it means that when older peer models include smoking, alcohol use, aggression, or truancy, younger students may interpret those behaviors as pathways to belonging or status.

Second, peer influence was intensified by weak protective structures. In all three cases, family monitoring was limited by work demands, socioeconomic pressure, or insufficient awareness of the risks associated with older peer affiliation. At the same time, the school did not appear to provide systematic prevention programs, counseling, transition support, or spatial separation between younger and older students.

Third, the students' developmental needs made them susceptible to peer-based reinforcement. Omar sought masculine identity and belonging; Laila sought alignment between bodily maturation and social identity; Sami sought status through aggression. These motives are developmentally understandable, but in the absence of guidance they were expressed through risky peer groups.

Fourth, the cases demonstrate why psychological analysis should avoid single-factor explanations. Age mixing, parental absence, socioeconomic pressure, early maturation, low self-regulation, and school organization each contribute only part of the explanation. The more accurate formulation is interactive: risk increases when multiple systems fail to provide protective supervision and when deviant peer behavior becomes socially rewarded.

General Recommendations

1. Reorganize school spaces and schedules. First-year students should have protected areas, supervised breaks, and transition routines that reduce unnecessary exposure to older peer groups during the first year of middle school.

2. Implement school-based prevention programs. Programs should address refusal skills, self-regulation, substance-use prevention, conflict resolution, and correction of exaggerated peer norms.
3. Strengthen psychological services. Middle schools should include trained counselors or school psychologists who can conduct early identification, brief counseling, group interventions, and referral when needed.
4. Provide gender-sensitive support. Girls experiencing early maturation should have access to female counseling staff, safe reporting mechanisms, and support groups addressing boundaries, identity, and peer pressure.
5. Increase parental involvement. Parent sessions should focus on practical monitoring, communication with adolescents, digital safety, and the specific risks associated with older peer affiliation.
6. Develop community alternatives. Partnerships with local associations can provide supervised sports, arts, tutoring, and youth activities that compete with street-based peer influence.
7. Encourage empirical research. Future studies should examine age mixing in Algerian middle schools using longitudinal designs, standardized behavioral measures, school records, and comparison groups. Such research would allow stronger conclusions than case studies alone.

Limitations

The present article is limited by its reliance on three clinical case vignettes. The cases are useful for illustrating possible mechanisms, but they do not establish prevalence, causality, or generalizability. The observations also appear to rely mainly on school and family reports, and no standardized psychological measures are described. Future work should include systematic assessment of peer networks, school climate, parental monitoring, self-regulation, and substance-use behavior. It should also consider broader cultural and socioeconomic factors that may shape both school organization and adolescent behavior.

Conclusion

The three cases suggest that age mixing in middle schools may become a developmental risk condition when younger pupils are repeatedly exposed to older peers who model or reinforce truancy, smoking, alcohol use, aggression, or vandalism. The most scientifically appropriate conclusion is not that age mixing inevitably produces delinquency or substance use, but that it can interact with weak supervision, identity concerns, early maturation, low self-regulation, and limited counseling services to increase vulnerability.

A preventive response should therefore be ecological and multilevel. School organization, parental guidance, psychological support, peer-norm correction, and community activities are all needed to reduce risk and strengthen protective factors. Creating safer and developmentally appropriate learning environments is likely to be especially important during the transition from primary to middle education, when younger students are negotiating identity, belonging, and autonomy.

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