# To what extent do biological predispositions, socio-cultural, and psychological variables contribute to adolescent suicide across different demographic groups?

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## Abstract

This research paper examines adolescent suicide as an urgent and rising global crisis, demanding a comprehensive understanding of the complex interplay between biological, psychological, and sociological factors. It explores how genetic predispositions, underdeveloped brain structures, and temperament interact with environmental pressures, socio-cultural influences, and psychological vulnerabilities to shape adolescent suicide risk across diverse demographic groups. Special attention is given to the role of gender, race, ethnicity, and geography in shaping both the experience and expression of suicidality. Drawing on interdisciplinary research from neuroscience, genetics, social theory, and clinical psychology, the analysis investigates how factors such as trauma, academic pressure, cultural stigma, body image issues, systemic inequalities, and the quality of relationships dynamically intersect and often compound one another. Adolescent suicide arises from the intersection of biological predispositions, personal distress, and societal pressures. This paper integrates genetics, lived experience, and cultural context to provide a multidimensional understanding of risk factors. It highlights gaps in research, including underrepresented groups and fragmented findings, and calls for culturally responsive, preventative approaches that address root causes. By acknowledging these complexities, it aims to guide interventions that are both scientifically grounded and empathetically attuned to vulnerable youth.

## Introduction

We hear these phrases in our everyday conversations: "I rather just kill myself."

Death has quietly woven itself into the fabric of our everyday lives. Even at a young age, many adolescents live with the awareness that ending their lives is an option—something they can consider when life becomes too difficult. This idea becomes so natural and familiar that it occupies their minds without them even realizing it. Some of them—far too many—take that irreversible step. But why? Why do so many teenagers, who still have countless days full of possibility ahead of them, choose to leave the world behind? What could make them feel like there’s no other way out? These are not just questions. They are cries for understanding and echoes of pain that demand we start listening to and truly seeing the silent battles our youth fight every day.

Adolescent suicide is one of the most urgent and complex public health challenges of our time. It is the second leading cause of death among young people globally, affecting people of all genders, races, and cultures (Hink et al., 2022). According to International Association for Suicide Prevention (IASP) statistics, an estimated 703,000 people die by suicide worldwide each year, and one in every 100 deaths was the result of suicide (IASP, 2025). Behind every statistic is a story of pain, disconnection, trauma, or simply feeling unseen. In the United States,

the Centers for Disease Control and Prevention (CDC) indicates that between 2011 and 2021, the suicide rate among adolescents aged 15–19 increased by 48%, rising from 4.4 to 6.5 per 100,000 population (Saunders & Panchal, 2023). Similarly, data from the National Institute of Mental Health (NIMH) reveal that suicide was the second leading cause of death among individuals aged 10–14 and 25–34, and the third leading cause among those aged 15–24 (NIH, n.d.). The causes of suicide in adolescents are not limited to a single trigger. Rather, they emerge from an interconnected web of influences, including biological predispositions, social and cultural stressors, and internal psychological struggles. Each of these factors can be overwhelming on its own. More often, however, they interact, reinforce, and intensify one another, creating a tipping point.

This paper explores the following question: to what extent do biological predispositions, sociocultural factors, and psychological variables contribute to adolescent suicide across different demographic groups? By examining these dimensions and their intersections, we aim to identify risks and understand the underlying patterns—to illuminate the factors that push some adolescents toward suicide while others manage to adapt resilience through.If we can understand what drives these silent crises, perhaps we can respond with care, compassion, and action instead of fear or shame.

## Biology

Biological factors, often referred to as the "nature" side of the nature versus nurture debate—a theory by Francis Galton in 1874, which explores the extent to which genetics (nature) and environment (nurture) influence human development and characteristics—play a crucial role in influencing suicidal behavior during adolescence (Lorenzo & Vasquez, 2020). One of the primary biological vulnerabilities in adolescents is their underdeveloped prefrontal cortex, the part of the brain responsible for decision-making, impulse control, and long-term planning (Arain et al,. 2013). This region continues to mature well into a person’s twenties, adolescents are more prone to making emotionally driven decisions, especially during times of psychological distress (Giedd, 2015). This neurological immaturity can result in heightened impulsivity and difficulty in processing the long-term consequences of suicidal actions (Miller & Prinstein, 2019).

Biological interventions, such as pharmacological treatments, attempt to regulate mood disorders like depression, which are strongly associated with suicidal ideation (Potter, 1991). Antidepressants, for example, are often prescribed to adolescents diagnosed with major depressive disorder, with the goal of restoring neurochemical balance and reducing emotional volatility (Pruthi et al., 2022). However, the effectiveness and safety of these medications can vary across demographic groups. For instance, research has shown that adolescent females are more likely than males to be prescribed antidepressants, yet also more likely to experience side effects such as increased suicidal thoughts in the early stages of treatment, suggesting a

need for gender-sensitive approaches in clinical care (Sramek et al., 2016). Which means, the gender differences in antidepressant prescribing and side effects in adolescents may be influenced by biological, hormonal, and social factors.

Genetic predisposition is another significant biological contributor to adolescent depression. Identical twin studies suggest that suicidal behavior can run in genetics, independent of shared environment (Pedersen & Fiske, 2015). A meta-analysis titled Genetics of Suicide: A Systematic Review of Twin Studies (Voracek, 2007) highlights a consistent genetic correlation between suicidal ideation and behavior, indicating that individuals with a family history of suicide are at elevated risk (Nagrani, 2010). These genetic factors often interact with demographic variables such as ethnicity and sex. For example, Native American and Indigenous youth in North America face disproportionately high suicide rates, which may be partially rooted in hereditary vulnerabilities compounded by socio-environmental stressors (Wexler & Gone, 2012). We can't fully understand these numbers without recognizing the ongoing impact of colonialism—which included the forced displacement of local populations, the suppression of their culture, systemic racism, and the elimination of their traditional ways of life—and its part in the intergenerational trauma of Indigenous communities. Colonisation disrupted Indigenous people's relationship with land, language, and self—key to psychological and cultural wellness. Decolonization, and the revival of language, culture, traditional healing practices, and community self-determination contribute to healing and suicide prevention (Urbanski, 2023).

Environmental biology also intersects with geography and demographic distribution. Living in regions with prolonged darkness or limited daylight exposure, such as northern latitudes or areas with long winters, has been associated with seasonal affective disorder (SAD) —a type of depression linked to reduced sunlight and biological disruptions in circadian rhythms, affecting sleep (Vyssoki, 2014). Adolescents in these areas may experience greater dysregulation of mood, increasing the risk of suicide. Additionally, studies on daylight saving time shifts reveal a temporary rise in depressive symptoms and suicide rates immediately following time changes, particularly in vulnerable groups (Christenson, 2022). These findings underscore the importance of considering geographical location and its biological consequences when assessing demographic risk profiles. Seasonal Affective Disorder (SAD), a form of depression triggered by reduced sunlight exposure during fall and winter, particularly affects adolescents by disrupting circadian rhythms and altering brain chemistry. This can lead to symptoms such as low energy, social withdrawal, feelings of hopelessness, and increased suicidal ideation, compounding the risk factors linked to seasonal changes in daylight (Buckloh, 2023).

Ultimately, gender-specific biological risk factors further complicate the demographic picture. Hormonal fluctuations, particularly during puberty, may heighten emotional instability in both sexes; however, adolescent females report higher rates of mood disorders such as depression and anxiety during this stage (Luo et al,. 2024). While adolescent females are more likely to

attempt suicide, adolescent males are more likely to die by suicide—often due to their choice of more lethal means, such as firearms or hanging, whereas females more frequently use methods like self-poisoning or medication overdose (Shain et al., 2016). This pattern reflects not only biological influences on mood and impulsivity but also gendered differences in method selection, access to means, and help-seeking behaviors, all of which shape the manifestation of suicidal risk.

## Socio-Cultural

Social, or "nurture" based, factors are deeply intertwined with adolescent mental health and suicide risk. Unlike biological predispositions, these factors stem from external influences like environment, relationships, community dynamics, and education—each of which shapes how adolescents interpret their emotions, develop coping strategies, and experience support or isolation. These social dimensions are not only circumstantial but are actively implicated in shaping vulnerability to commit suicide (King & Merchant, 2010).

One key social determinant of adolescent mental health is the environment, which includes access to mental health resources, social support systems, and exposure to crime, violence, or other stressors. Social determinants are the non-medical conditions in which individuals are born, live, and grow that influence their health outcomes by shaping how they experience emotions, develop coping skills, and face support or isolation (WHO, 2024). Research on the impact of the built environment has found significant correlations between urban design and suicide rates on adolescents (Jiang et al., 2021). Factors such as housing density, lack of green space, poor infrastructure, and limited access to communal areas can contribute to feelings of social isolation, anxiety, and helplessness—key predictors of suicidal ideation (Caballero et al,. 2024). Jiang et al. continued that the built environment can influence core risk factors outlined in the Interpersonal Theory of Suicide (IPTS): social disconnection, mental health disorders, physical illness, and even unemployment (Joiner, 2005). Conversely, design interventions—such as expanding green spaces, reducing overcrowding, and enhancing public accessibility—may help reduce suicide risk by fostering social interaction and psychological resilience.

Family and peer relationships represent another powerful social influence. Adolescents experiencing high levels of academic stress often are associated with greater levels of anxiety, burnout, and low motivation, making it more difficult for them to manage emotional regulations (Feld, 2011; Rangaswamy, 1995). Academic expectations from parents can become overwhelming, especially in competitive environments where success is closely tied to personal worth. Peer pressure also plays a significant role; both direct and indirect pressures to conform can lead adolescents to engage in risky behaviors or suppress their emotions to fit group norms (Cotterell, 2017; Rubin et al., 2016). When young people feel excluded or misunderstood by

their peers, it can reinforce a sense of isolation and low self-worth—key conditions that contribute to suicidal tendencies (Perkins, 2013). As Ekeze et al. (2024) note, suicidal behavior exists on a spectrum, from ideation to attempts, and its rise among students calls for earlier recognition of warning signs and more robust support systems.

The community effect, particularly through schools and neighborhoods, has also been shown to influence self-harm, suicidal ideation, and suicide attempts among adolescents. According to Young et al. (2011), the broader climate in which adolescents live—whether they feel safe, connected, and supported—plays a significant role in their mental health outcomes. A strong sense of belonging in school and community acts as a protective factor against suicidal behavior by fostering social connectedness and reducing feelings of isolation. Schools with a positive environment, clear anti-bullying policies, and engaged teachers tend to see lower rates of suicidal behavior. Conversely, environments marked by violence, discrimination, or disengagement can amplify emotional distress and reduce help-seeking behavior (Oregon, 2024).

Education, both in terms of attainment and content, can dramatically shape an adolescent's mental health trajectory (Clarke et al., 2021). Phillips and Hempstead (2014) found that adults with higher levels of education had significantly lower suicide rates, especially among men. Those with only a high school degree were far more likely to die by suicide than those with a college degree, highlighting the long-term protective value of education (Rosoff et al., 2020).

This protective effect may be due to multiple factors: educational environments can improve mental health literacy, equip adolescents with emotional regulation and coping skills, and promote social connectedness—all of which are crucial for resilience against mental health challenges. Furthermore, higher educational attainment often leads to better socioeconomic opportunities, reducing stressors linked to poorer mental health outcomes. Systematic reviews demonstrate that school-based mental health programs incorporating cognitive behavioral and social-emotional learning interventions have the potential to positively influence well-being and reduce symptoms of depression and anxiety over time, emphasizing education's role in shaping mental health beyond academics (Yani et al., 2025; Berger et al., 2022).

Beyond academic qualifications, the quality of mental health education itself matters. School-based educational interventions have demonstrated promising results in improving student knowledge and attitudes toward mental health, and in reducing suicidal ideation and attempts (Pistone, 2019). However, outcomes vary depending on the characteristics of the students and the design of the program. Notably, gatekeeper training programs—which teach people to identify individuals who are showing warning signs of suicide risk and help these individuals get the services they need. Often implemented in schools, it did not show significant

effects on actual suicide prevention, suggesting that more tailored, student-focused interventions may be needed.

Across all these areas, demographic variables such as gender and race shape how adolescents experience social stressors. Sex differences in suicidal behavior among adolescents and young adults reveal a complex dynamic: while females are statistically more likely to attempt suicide, males are more likely to die by suicide (Mendizabal et al., 2019). Female-specific risk factors for attempts include Post Traumatic Stress Disorder, depressive symptoms, eating disorders, bipolar disorder, dating violence, interpersonal conflict, and past abortion. In contrast, male-specific risk factors—particularly for suicide deaths—include drug abuse, externalizing disorders such as aggression and delinquency, access to lethal means, and exposure to peer suicide. Males are also more likely to experience hopelessness and conduct problems that might lead them to be socially unfitting, also when dealing with family separation or disrupted support systems.

Cultural background and racial identity further complicate these social dynamics. Racial and ethnic minority youth may face limited access to culturally sensitive care, stigma around discussing mental health, or systemic inequities such as poverty and discrimination (Weersing et al., 2022). These stressors can compound over time, increasing the likelihood of emotional suppression and suicidal ideation in populations already underrepresented in mental health outreach.

Together, these social factors do more than create conditions for stress—they shape how adolescents face their challenges, whether they reach out for help, and how they evaluate their self-worth. These experiences, in turn, influence the development of internal psychological patterns such as hopelessness, cognitive distortions, or emotional dysregulation, forming a bridge between external circumstances and internal mental health.

## Psychology

Psychological factors lie at the heart of adolescent suicide, shaping how young people interpret biological predispositions and social stressors. While biology can predispose individuals to certain vulnerabilities,social environments can provide or withhold support. It is the internal psychological world that ultimately determines whether distress transforms into suicidal thoughts or behavior. The adolescent brain is especially sensitive to emotional disruptions, and when exposed to trauma, body image issues, or interpersonal rejection, it often develops harmful cognitive patterns—such as hopelessness, self-blame, and emotional dysregulation—that elevate the risk of suicide.

A major psychological contributor is past experience with trauma or neglect, particularly during childhood (Copley, 2024). Adverse Childhood Experiences (ACEs)—such as emotional, physical, or sexual abuse lasting negative effects on health and well-being of children before the age of 18—has a lasting impact on emotional and cognitive development. Multiple meta-analyses have shown that all forms of childhood trauma significantly increase the likelihood of suicide attempts later in life, with emotional abuse emerging as the strongest predictor (Liu et al., 2017; Zatti et al., 2017). Trauma disrupts the brain's ability to regulate emotions, heightens sensitivity to rejection, and impairs the development of healthy coping mechanisms. This psychological effect could lead to underdevelopment of the prefrontal cortex and overactivity in emotional centers like the amygdala—interrrupting these process—making it harder for traumatized adolescents to manage impulsive or self-destructive urges. This psychological effect disrupts the normal developmental trajectory by altering neural connectivity and impairing the formation of critical brain networks, particularly those involved in executive functions and emotional regulation. Consequently, trauma-exposed adolescents may experience deficits in attention, decision-making, and impulse control, which exacerbate difficulties in managing self-destructive urges and increase vulnerability to mental health disorders (New Jersey Pediatric Neuroscience Institute, 2024).

In many cases, family history of mental illness or suicide compounds the psychological damage of trauma and increase vulnerability of adolescents (Chaiyachati et al., 2025). Adolescents raised in environments where mental illness is common, or where suicide has occurred, may internalize unhealthy coping behaviors or view suicide as a modeled response to distress (Mendizabal et al., 2019). This form of intergenerational transmission reflects both learned behavior (nurture) and potential genetic predisposition (nature), illustrating how biological and social factors converge psychologically (Lehrner & Yehuda, 2018). Even without explicit modeling, family dysfunction—particularly in cases involving parental separation, neglect, or emotional unavailability—can lead adolescents to believe that emotional pain is inescapable, reinforcing cognitive distortions and core beliefs such as “I’m a burden” or “Things will never get better.”

Post-Traumatic Stress Disorder (PTSD) is a specific mental health consequence of trauma that significantly increases suicide risk, especially in adolescent females (Eskander, 2020). PTSD often involves hypervigilance, intrusive thoughts, emotional numbing, and difficulty trusting others—all of which can erode social support networks and create intense internal suffering (Yehuda & Lehrner, 2018). Mendizabal et al. (2019) found that PTSD is especially associated with suicide attempts in adolescent females, again, suggesting gender-specific pathways of risk that tie back to demographic patterns discussed earlier. Further, the fact that PTSD in males is underreported or less strongly linked to suicide may also reflect the societal expectation that boys remain stoic or suppress emotion—highlighting how cultural norms interact with psychological distress.

Another critical and growing psychological issue among adolescents is body image and self-perception, particularly surrounding obesity and societal beauty standards. Obesity has been significantly associated with suicidal ideation, planning, and attempts—even after accounting for external pressures like bullying or socioeconomic status (Iwatate et al., 2023). Adolescents who are obese often internalize stigma, struggling with shame, inadequacy, and feelings of invisibility, which are reinforced through negative self-talk and distorted self-perception (Cerolini et al., 2024). Research shows that both perceived and actual weight status can independently increase mental health risks, with adolescents who experience weight-based teasing or discrimination being particularly vulnerable to depression, low self-esteem, and suicidal ideation (Gautam, 2022). This internalized body stigma creates a harmful cycle, where negative self-perception not only exacerbates emotional distress but also amplifies the risk of engaging in self-harm or suicidal behavior (Sutin et al., 2018). Consequently, body image and self-perception are increasingly recognized as critical factors in adolescent mental health, highlighting the need for interventions that promote self-compassion, resilience, and the challenging of harmful societal beauty norms..

Similarly, the internalization of beauty standards—amplified by social media—has emerged as a modern psychological threat. This issue has been an ongoing problem, but got flamed by expansion of social media usage among teenagers. Adolescents today are constantly exposed to curated and filtered images that depict narrow ideals of attractiveness. According to Sherman and Prescott (2024), over 87% of adolescents use filters to alter their appearance online, driven by a desire to look "acceptable" or "nice." This behavior reflects and reinforces a deeper insecurity: that their natural appearance is insufficient. The psychological impact of this constant comparison can lead to chronic dissatisfaction with one's body, lowered self-esteem, and increased suicidal ideation. These effects are particularly pronounced in females, who are often targeted by appearance-based social pressures, though males are increasingly affected as well. This insecurity arises because while technology and social media platforms have advanced rapidly, offering constant opportunities for comparison and feedback through curated images, our brains have not evolved at the same pace. The adolescent brain, wired for social affiliation and sensitive to peer evaluation, processes these constant stimuli without the mature regulatory control developed in adulthood. Neuroscientific literature shows that regions involved in reward processing, social cognition, and emotional regulation (such as the amygdala and prefrontal cortex) are still maturing during adolescence. This developmental stage makes adolescents particularly vulnerable to the psychological impact of social media, fostering negative self-perception and emotional distress when comparing themselves to idealized images that rarely reflect reality (Dwight L. Evans (ed.) et al., 2005).

Demographic factors such as gender and race profoundly shape how psychological risks are experienced and internalized. As previously discussed in both the biological and social sections,

females are more likely to internalize distress, leading to higher rates of depression, PTSD, and suicide attempts. Mendizabal et al. (2019) found that female-specific psychological risk factors for suicidal behavior include PTSD, interpersonal conflict, dating violence, and eating disorders. In contrast, male adolescents are more likely to externalize distress through aggression or substance abuse, and are at greater risk of suicide death due to access to lethal means and reduced likelihood of seeking help.

Cultural stigma around mental illness in certain racial and ethnic groups can prevent adolescents from expressing emotional pain, seeking support, or accessing therapeutic resources, thereby prolonging internal suffering and reinforcing feelings of isolation. For example, research shows that in many Asian communities, discussing mental health issues is often considered shameful or a threat to family reputation, leading adolescents to conceal their struggles and avoid seeking help (Cheng et al., 2018). This can contribute to adolescents concealing their struggles and avoiding help-seeking. In contrast, White adolescents are generally more likely to openly talk about emotional challenges and pursue counseling or therapy (Brownstein, 2025). Similarly, Latin adolescents may face additional barriers due to culturally embedded beliefs that mental health difficulties should be endured privately or addressed only within the family, which can delay professional intervention and exacerbate distress (Zayas et al., 2019). These cultural pressures shape how adolescents experience, internalize, and respond to psychological distress, illustrating the critical need for culturally sensitive mental health education and interventions that respect diverse norms while encouraging help-seeking behaviors.

Ultimately, psychological factors represent the internal processing system that either buffers or intensifies external challenges. While an adolescent may face biological vulnerabilities or a stressful environment, it is their psychological interpretation—how they frame the problem, whether they feel supported, and whether they believe change is possible—that determines the outcome. Trauma can distort these interpretations, while body image issues can erode the basic sense of self-worth. And when these psychological vulnerabilities go unaddressed, especially in the context of social isolation or stigma, suicidal thoughts and behaviors become more likely.

## Conclusion

Biological predispositions, environmental and relational pressures, and internal psychological patterns interact dynamically—often with devastating effects—on adolescent suicidality. Adolescent suicide is not the result of a single cause but rather a deeply layered phenomenon, where factors from biological, social, and psychological domains overlap, reinforce one another, and magnify risk. Depending on an individual's demographic and developmental context, each domain—including genetic vulnerability, neurological immaturity, environmental stressors, trauma, interpersonal relationships, and internalized self-perception—can act both as a trigger

and as an amplifier of suicidal risk. For instance, a child with a genetic predisposition to depression may remain relatively resilient unless exposed to trauma, neglect, or social isolation; when these vulnerabilities converge, the risk of suicidal behavior can escalate exponentially. Understanding this interplay is crucial for designing interventions that address not just the symptoms but the deeper cognitive, emotional, and relational roots of adolescent suicidality.

However, while this integrative approach helps illuminate many contributing factors, there is still much we do not fully understand about how these influences interact to affect adolescent suicidality. First, current research often isolates variables for study, examining trauma or medication effects in isolation rather than studying how they interact in real life. This creates a gap in our understanding of how risk manifests in adolescents with multiple compounding vulnerabilities. Second, much of the literature remains concentrated on Western populations, particularly in North America and Europe. Consequently, findings may not accurately reflect the experiences of adolescents in underrepresented regions where cultural, economic, and systemic differences influence the perception and expression of suicide risk. For example, in South Korea, academic stress is a significant factor—one study found that 40% of adolescents reported suicidal ideation due to academic pressure, and that alarming 12% of adolescent suicides were directly attributed to academic stress (Kang, 2023).

Similarly, in many East and Southeast Asian cultures, high parental expectations and highly competitive academic environments can place sustained pressure on adolescents—often more intense than typically reported in Western contexts—which can exacerbate feelings of failure, isolation, and worthlessness, especially when paired with limited openness in discussing mental health. Additionally, gender has historically been viewed as binary, which leaves non-binary, transgender, and gender-nonconforming adolescents underrepresented in suicide research, despite their higher rates of suicidal thoughts and behaviors.

Another limitation lies in the overreliance on self-reported data and retrospective analysis. Because suicidal ideation is deeply personal and often underreported due to stigma, many adolescents' struggles remain invisible to researchers, caregivers, and policymakers. Furthermore, studies that focus primarily on suicide attempts may overlook the large population of youth who live with chronic suicidal thoughts, emotional dysregulation, or untreated trauma. These conditions, while not always resulting in action, carry an immense psychological burden and cause long-term harm.

Future research must embrace a more intersectional and longitudinal approach. Studies should explore how combinations of biological, social, and psychological risk factors interact over time and within different demographic and cultural contexts. Research must also evolve beyond pathology and toward resilience. Which protective factors enable certain adolescents to overcome severe adversity? How do support systems—whether familial, peer-based,

educational, or therapeutic—function differently depending on race, gender, or economic background? Furthermore, future studies should include more diverse samples and consider the unique experiences of LGBTQ+ youth, immigrants, Indigenous populations, and individuals with disabilities.

On a practical level, interventions must be multi-layered and personalized. School-based mental health education should integrate trauma-informed practices and culturally responsive care. Mental health services must shift from reactive crisis management to proactive emotional education and early intervention. At the clinical level, treatments such as pharmacotherapy must be accompanied by psychological support and social integration efforts, especially for adolescents. Programs that involve family members and caregivers can reinforce coping strategies and provide a supportive home environment. Additionally, regular screening and monitoring of at-risk youth can help identify warning signs early, allowing for timely and targeted interventions before crises develop.

Adolescent suicide is not inevitable. Rather, it is a response to compounded suffering that is often invisible or misunderstood. By breaking down disciplinary barriers, challenging research silos, and centering adolescent voices in science and policy, we can move toward a future where vulnerability is met with understanding, compassion, and effective support—not silence. Achieving this future requires acknowledging how risk is shaped not only by individual psychology but also by cultural and societal expectations—for example, the intense academic pressure prevalent in many Asian communities, which can significantly amplify distress and feelings of inadequacy. Recognizing and addressing such culturally specific stressors alongside universal risk factors is essential for building prevention strategies that are both effective and culturally sensitive.

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