UNIVERSIDAD AUTÓNOMA DE CIUDAD JUÁREZ
Instituto de Ciencias Sociales y Administración
Departamento de Ciencias Sociales
Doctorado en Psicología
Sistema Nacional de Posgrados CONAHCYT

"Sociodemographic and psycho-maladaptive factors determining suicidal ideation and implications for a preventive-based intervention among students at a university in northern Mexico"

Tesis Doctoral
Línea de Investigación e Incidencia (LIE): Psicología de la Salud
Agosto 2022-Julio 2025

Por

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Abstract

Background: Globally, suicide among young adults remains a significant public health concern, with Mexico being no exception, while studies have identified Chihuahua State as the most affected region in Mexico. While university students are part of this vulnerable population, there remains insufficient research focusing on the psychosocial determinants and prevention of suicidal ideation (SI). **Objectives:** This study aimed to assess, through quantitative and qualitative approaches, the demographic and psycho-maladaptive factors contributing to the risk and protective factors of suicidal ideation among university students at Universidad Autónoma de Ciudad Juárez (UACJ), northern Mexico, to inform the development of intervention-based preventive programs. **Theory:** The study was guided by the Three-Step Theory of Suicide and the Interpersonal Psychological Theory of Suicide. **Methodology:** This mixed-methods research employed a sequential explanatory design. The quantitative phase used a cross-sectional survey with an ex post facto design and an empirical-analytical approach rooted in positivism. Cochran's (1977) sample size formula and snowball sampling techniques were employed to recruit 385 participants. Data were collected using a comprehensive questionnaire pack that included the Plutchik Suicide Risk Scale, the Brief Resilience Scale, the Oslo Social Support Scale, the Acceptance and Commitment Questionnaire-II, the Generalized Anxiety Disorder Scale-2, the Patient Health Questionnaire-2, and the Environmental Worry Index. Quantitative data were analyzed using correlation, hierarchical multiple regression, and Hayes's mediation modeling at a significance level of $p < .05$. In the qualitative phase, nine (9) students with a history of suicidal behavior were purposefully selected from different UACJ institutes. Data were collected through in-depth interviews and analyzed using thematic content analysis grounded in an interpretivist approach. **Results:** Quantitative results showed significant negative correlations between age ($r = -0.114$, $p < .05$), resilience ($r = -0.725$, $p < .01$), and social support ($r = -0.404$, $p < .01$) and SI. Conversely, cognitive rigidity ($r = 0.701$, $p < .01$), anxiety ($r = 0.814$, $p < .01$), depression ($r = 0.813$, $p < .01$), and environmental degradation worry ($r = 0.745$, $p < .01$) were positively associated with SI. In the predictive modeling; Model 1 showed that identifying as a sexual minority ($\beta = 0.113$, $p < .05$), lacking a scholarship ($\beta = 0.271$, $p < .01$), and reporting poor academic performance ($\beta = 0.287$, $p < .01$) predicted SI, collectively explaining 28.1% of the variance. Model 2 significantly increased the explained variance to 78.1%, with resilience ($\beta = -0.141$, $p < .01$), anxiety ($\beta = 0.598$, $p < .01$), and depression ($\beta = 0.716$, $p < .01$) emerging as stronger predictors of SI. Mediation analysis showed that anxiety significantly predicted SI ($\beta = 2.2046$, SE = 0.0798, $t = 12.61$, $p < .001$, 95% CI [2.048, 2.361]), with significant indirect effects through resilience ($\beta = 0.3667$, 95% CI [0.1219, 0.6275]) and social support ($\beta = 0.1191$, 95% CI [0.0621, 0.1840]); the total indirect effect was significant ($\beta = 0.4858$, SE = 0.1312, 95% CI [0.2337, 0.7492]). Depression significantly predicted SI ($\beta = 2.2046$, SE = 0.0836, $t = 27.07$, $p < .001$, 95% CI [2.0981, 2.4268]), with mediation effects through resilience ($\beta = 0.3986$, 95% CI [0.1258, 0.7051]) and social support ($\beta = 0.1162$, 95% CI [0.0553, 0.1869]); the total indirect effect was significant ($\beta = 0.5150$, SE = 0.1523, 95% CI

[0.2354, 0.8353]). Resilience (β = −0.7841, p < .001) and social support (β = −0.2258, p < .001) significantly predicted cognitive rigidity, which, in turn, predicted SI (β = 0.4049, p < .001), suggesting that greater resilience and social support reduced cognitive rigidity and thereby decreased SI. Environmental degradation worry significantly predicted SI (β = 0.2026, p < .001), with resilience (β = 0.2794, 95% CI [0.0775, 0.5130]) and social support (β = 0.1133, 95% CI [0.0465, 0.1982]) mediating this relationship; the total indirect effect was significant (β = 0.3927, SE = 0.1244, 95% CI [0.1714, 0.6476]). Qualitative findings complemented and expanded upon the quantitative results, confirming the key risk factors (anxiety, depressive symptoms, cognitive rigidity, and environmental degradation worry) and uncovering additional familial, social, academic, and psychological stressors. Familial factors included family history of mental health issues, parental conflict, bullying, and interpersonal violence. Social factors involved low help-seeking behavior, financial hardship, inadequate mental health services, and poor student-teacher relationships. Academic factors encompassed academic burnout, study pressure, and study-life imbalance. Psychological stressors included perceived low belongingness, perceived burdensomeness, and diminished resilience. **Discussion:** The study underscored the critical roles of young age, cognitive rigidity, anxiety, depression, environmental degradation worry, sexual minority status, lack of scholarship, and low academic performance as significant risk factors for suicidal ideation. Protective factors such as resilience and social support emerged as crucial mediators, reducing suicidal ideation risks by attenuating cognitive rigidity, emotional distress, and environmental worry. Qualitative insights further illuminated the complex, layered nature of stressors influencing suicidal ideation. **Conclusion:** This study highlighted the multifaceted nature of suicidal ideation among university students, shaped by sociodemographic, psychological, academic, and environmental factors. The findings support the need for preventive interventions integrating resilience-building programs, strengthening social support systems within academic and familial contexts, and addressing environmental concerns to mitigate suicidal ideation risk among university students.

Keywords: Preventive intervention, Psycho-maladaptive factors, Socio-demographics, suicidal ideation, University students.

Resumen

Antecedentes: A nivel mundial, el suicidio entre adultos jóvenes sigue siendo un problema de salud pública importante, y México no es la excepción, mientras que estudios han identificado al estado de Chihuahua como la región más afectada en México. Aunque los estudiantes universitarios forman parte de esta población vulnerable, sigue habiendo una investigación insuficiente enfocada en los determinantes psicosociales y en la prevención de la ideación suicida (IS).
Objetivos: Este estudio tuvo como objetivo evaluar, mediante enfoques cuantitativos y cualitativos, los factores demográficos y psico-desadaptativos que contribuyen a los factores de riesgo y de protección de la ideación suicida entre estudiantes universitarios de la Universidad Autónoma de Ciudad Juárez (UACJ), en el norte de México, para informar el desarrollo de programas preventivos basados en intervenciones.
Teoría: El estudio se guió por la Teoría de los Tres Pasos del Suicidio y la Teoría Interpersonal Psicológica del Suicidio.
Metodología: Esta investigación de métodos mixtos empleó un diseño explicativo secuencial. La fase cuantitativa utilizó un diseño transversal con enfoque ex post facto y un enfoque empírico-analítico basado en el positivismo. Se utilizaron la fórmula de tamaño de muestra de Cochran (1977) y las técnicas de muestreo de bola de nieve para reclutar a 385 participantes. Los datos se recolectaron mediante un paquete de cuestionarios que incluyó la Escala de Riesgo de Suicidio de Plutchik, la Escala Breve de Resiliencia, la Escala de Apoyo Social de Oslo, el Cuestionario de Aceptación y Compromiso-II, la Escala de Trastorno de Ansiedad Generalizada-2, el Cuestionario de Salud del Paciente-2, y el Índice de Preocupación Ambiental. Los datos cuantitativos se analizaron mediante correlaciones, regresión múltiple jerárquica y modelos de mediación de Hayes, utilizando un nivel de significancia de $p < .05$. En la fase cualitativa, nueve (9) estudiantes con antecedentes de conducta suicida fueron seleccionados intencionalmente de distintos institutos de la UACJ. Los datos se recolectaron a través de entrevistas en profundidad y se analizaron mediante análisis de contenido temático basado en un enfoque interpretativo.
Resultados: Los hallazgos cuantitativos indicaron correlaciones negativas significativas entre edad ($r = -0.114$, $p < .05$), resiliencia ($r = -0.725$, $p < .01$) y apoyo social ($r = -0.404$, $p < .01$) con la IS. Por el contrario, la rigidez cognitiva ($r = 0.701$, $p < .01$), la ansiedad ($r = 0.814$, $p < .01$), la depresión ($r = 0.813$, $p < .01$) y la preocupación por la degradación ambiental ($r = 0.745$, $p < .01$) se asociaron positivamente con la IS. En la modelización predictiva: el Modelo 1 mostró que identificarse como minoría sexual ($\beta = 0.113$, $p < .05$), carecer de beca ($\beta = 0.271$, $p < .01$) y reportar bajo rendimiento académico ($\beta = 0.287$, $p < .01$) predijeron la IS, explicando colectivamente el 28.1% de la varianza. El Modelo 2 incrementó significativamente la varianza explicada al 78.1%, emergiendo la resiliencia ($\beta = -0.141$, $p < .01$), la ansiedad ($\beta = 0.598$, $p < .01$) y la depresión ($\beta = 0.716$, $p < .01$) como predictores más fuertes de la IS. El análisis de mediación mostró que la ansiedad predijo significativamente la IS ($\beta = 2.2046$, SE = 0.0798, $t = 12.61$, $p < .001$, IC 95% [2.048, 2.361]), con efectos indirectos significativos a través de la resiliencia ($\beta = 0.3667$, IC 95% [0.1219, 0.6275]) y el apoyo social ($\beta = 0.1191$, IC 95% [0.0621, 0.1840]); el efecto indirecto total fue significativo ($\beta = 0.4858$, SE = 0.1312, IC 95% [0.2337, 0.7492]). La depresión predijo significativamente la IS ($\beta = 2.2046$, SE = 0.0836, $t = 27.07$, $p < .001$, IC 95% [2.0981, 2.4268]), con efectos de mediación a través de la resiliencia ($\beta = 0.3986$, IC 95% [0.1258, 0.7051]) y el apoyo social ($\beta = 0.1162$, IC 95% [0.0553, 0.1869]); el efecto indirecto total fue significativo ($\beta = 0.5150$, SE = 0.1523, IC 95% [0.2354, 0.8353]). La resiliencia

($\beta = -0.7841$, $p < .001$) y el apoyo social ($\beta = -0.2258$, $p < .001$) predijeron significativamente la rigidez cognitiva, que a su vez predijo la IS ($\beta = 0.4049$, $p < .001$), sugiriendo que una mayor resiliencia y apoyo social reducen la rigidez cognitiva y, por ende, disminuyen la IS. La preocupación por la degradación ambiental predijo significativamente la IS ($\beta = 0.2026$, $p < .001$), con mediaciones a través de la resiliencia ($\beta = 0.2794$, IC 95% [0.0775, 0.5130]) y el apoyo social ($\beta = 0.1133$, IC 95% [0.0465, 0.1982]); el efecto indirecto total fue significativo ($\beta = 0.3927$, SE = 0.1244, IC 95% [0.1714, 0.6476]). Los hallazgos cualitativos complementaron y ampliaron los resultados cuantitativos, confirmando los principales factores de riesgo (ansiedad, síntomas depresivos, rigidez cognitiva y preocupación por la degradación ambiental) y revelando factores de estrés adicionales de tipo familiar, social, académico y psicológico. Los factores familiares incluyeron antecedentes de problemas de salud mental en la familia, conflictos parentales, acoso escolar y violencia interpersonal. Los factores sociales implicaron baja búsqueda de ayuda, dificultades económicas, servicios de salud mental inadecuados y malas relaciones alumno-docente. Los factores académicos incluyeron agotamiento académico, presión de estudio y desequilibrio entre el estudio y la vida personal. Los factores psicológicos incluyeron una baja percepción de pertenencia, la percepción de ser una carga y una resiliencia disminuida. **Discusión**: El estudio subrayó los roles críticos de la juventud, la rigidez cognitiva, la ansiedad, la depresión, la preocupación por la degradación ambiental, el estatus de minoría sexual, la falta de beca y el bajo rendimiento académico como factores de riesgo significativos para la ideación suicida. Los factores protectores como la resiliencia y el apoyo social surgieron como mediadores cruciales, reduciendo el riesgo de ideación suicida al atenuar la rigidez cognitiva, la angustia emocional y la preocupación ambiental. Los hallazgos cualitativos iluminaron aún más la naturaleza compleja y multifacética de los factores de estrés que influyen en la ideación suicida. **Conclusión**: Este estudio destacó la naturaleza multifactorial de la ideación suicida entre estudiantes universitarios, moldeada por factores sociodemográficos, psicológicos, académicos y ambientales. Los hallazgos respaldan la necesidad de intervenciones preventivas que integren programas de fortalecimiento de la resiliencia, refuercen los sistemas de apoyo social en los contextos académico y familiar, y aborden las preocupaciones ambientales para mitigar el riesgo de ideación suicida entre los estudiantes universitarios.

Palabras clave: Intervención preventiva, factores de psico-desadaptavo, Sociodemográficos, Ideación suicida, Estudiantes universitarios.

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Introduction

Examining the impact of specific demographic and psycho-maladaptive factors on suicidal ideation among university students in northern Mexico can provide a more profound understanding of how these risk and protective factors can aid in preventing suicidal ideation among college students. Therefore, the primary objective of this study is to use the sequential explanatory design to identify quantitatively the sociodemographic and psychological issues that can trigger suicidal thoughts and, secondly, to conduct a qualitative study on students who have survived suicide to identify the factors that influence and safeguard their mental health. In this way, the researcher could develop prevention-based intervention modules for university students at the Universidad Autonoma de Ciudad Juarez (UACJ) in Juárez, located in northern Mexico, for clinical use to mitigate this global health challenge. Many past studies have adopted this mixed-method approach to achieve similar objectives (Creswell & Creswell, 2017; Takona, 2024).

Individuals, families, and communities are adversely affected by suicide over a long period. Several factors can contribute to suicidal behavior. Suicide impacts people of all ages and it has raised a perpetual concern. This psychopathology is the second leading cause of death for young adults aged 18 to 34, the fourth leading cause of death for those aged 35 to +54, and the eighth leading cause of death for those aged 55 to 64 (Centers for Disease Control and Prevention [CDC], 2018).

Suicidal ideations, also known as suicidal thoughts or ideas, are a broad term that incorporates a range of contemplations, desires, and preoccupations with death, as well as the intent to commit suicide (CDC, 2018; Harmer et al., 2023). Because there is no globally accepted or consistent definition of suicidal ideation, therapists, researchers, and scholars in the education sector must continue to investigate what fully describes this phenomenon. Certain studies have defined suicidal ideation in the following manner: The ICD-11 defines suicidal ideation as "thoughts, ideas, or ruminations regarding the prospect of ending one's life, ranging from the belief that one's life would be better off without them to the formation of comprehensive plans" (WHO, 2019a). While the DSM-5 TR defines suicidal ideation as "thoughts about self-harm with serious deliberation or preparation of possible means to cause

one's death," the concept is more complex (American Psychological Association [APA], 2022).

Certain institutions, according to researchers in Mexico, have observed a rise in suicidal ideation dating back centuries. González-Macip et al. (2000) estimated that 18.9% of Mexican university students had suicidal thoughts, but they may have used a less broad definition of "thoughts." In contrast, Unikel et al. (2006) 10% of a sample of Mexican female high school and college pupils scored highly on the suicidal index. A representative research of Mexican high school students found that 47% had suicidal thoughts and 9% had attempted suicide in the past. This suggests that many suicides occurred among high school students who did not enroll in tertiary institutions, as they may have taken their own lives before enrolling in university (Benjet et al., 2019). Few studies have demonstrated the prevalence of psychopathology, particularly suicidal ideation, among Mexican university students, particularly those in northern Mexico, but numerous studies from other universities indicate an increase in suicidal ideation among college students. According to one of these studies, 36% of college students exhibited depressive symptoms, which are frequently associated with suicidal ideation (Melo-Carrillo et al., 2012; Benjet et al., 2019). In a previous study, 9.7% of a sample of Mexican university students reported suicidal thoughts during the preceding year; 0.7% had attempted suicide, and 5.3% had engaged in suicidal-related actor or self-harm (Benjet et al., 2019). As a result, Borges (2021) argued that, despite the high suicide risk among Mexican university students, the lack of enough studies and data on the causes of suicidal ideation or behavior across diverse demographic groups was a failure on the part of health science researchers.

Problem Statement

The General Health Law (1984) in Mexico serves as the regulatory framework of the Constitution. Notably, a pivotal shift in the conceptualization of health emerged in 2013, as per the World Health Organization's revised definition, which now encompasses health as a state of complete physical, mental, and social well-being, transcending the mere absence of illness or infirmity (WHO, 2013). Within this legislative landscape, the seventh chapter is devoted to the domain of mental health. Mental health is herein defined as "a state of well-

being experienced by an individual resulting from their effective functioning across cognitive, affective, and behavioral dimensions, thereby realizing their full potential for coexistence, work, and recreation" (as articulated in Article 72, reformed of WHO in January 2013). The law also acknowledges the imperative of promoting mental health through proactive measures and underlines the need to prevent and regulate the utilization of psychotropic and narcotic substances. It emphasizes the importance of providing care with the utmost respect for human rights and underscores the necessity of multidisciplinary research in the field. However, it is noteworthy that the legislation addresses mental disorders and the conditions of institutionalization but includes only a solitary mention of suicide, specifically when it is prohibited, as articulated in Article 166. bis. Significantly, suicidal thoughts or actions remain unmentioned in the law.

Regrettably in Mexico, neither the legislation nor the majority of state laws encompass provisions about the provision of mental health services, especially the prevention measures for suicidal behaviors, presenting a substantial gap in the current legal framework. Consequently, a comprehensive mental health law is absent at the national level in Mexico (Valdez-Santiago et al., 2021). In recent years, however, both the House of Representatives and the Senate have demonstrated a growing interest in addressing mental health issues (Ministry of Health, 2020). On November 20, 2019, for instance, a comprehensive mental health law proposal was introduced, wherein suicide is characterized as a grave concern and the third leading cause of death among individuals aged 15 to 19 (Valdez-Santiago et al., 2019). Nevertheless, it is important to note that the proposed legislation does not explicitly mention suicidal behavior. The study delved into discussions concerning the National Mental Health Council and emphasized the necessity for adequate funding to effectively implement the national program (Ministry of Health, 2020; Valdez-Santiago et al., 2021).

In March 2020, the Health and Legislative Studies Commissions jointly expressed their support for the initiative. To become law, the initiative would need to undergo final approval in the examining chamber of representatives (Ministry of Health, 2020). Concurrently, it is worth mentioning that the National Human Rights Commission (CNDH) has raised concerns that the initiative may neglect the legal capacity of individuals with disabilities and potentially infringe upon fundamental human rights, including dignity,

autonomy, freedom, and nondiscrimination (Valdez-Santiago et al., 2021). In a broader legislative context, the Second Legislative Assembly of the Senate of the Republic has granted authorization for a draft decree aimed at reforming the General Health Law to encompass provisions about suicide prevention and control (Díaz-Castro et al., 2017; Valdez-Santiago et al., 2020).

According to the literature on legal guidelines for suicide in Mexico, all 32 states possess general health laws except for the State of Mexico, which repealed its health law in 2001 (Valdez-Santiago et al., 2021; Ministry of Health, 2020) with the addition of mental health principles. Notably, 90.3% of these laws comprise specific sections dedicated to mental health, with Sinaloa and Sonora only briefly referencing the Law on Mental Health (LSM) (Valdez-Santiago et al., 2021). In contrast, Nuevo Leon addresses mental health in two separate articles. In contrast, Jalisco and Michoacan do not expressly include mental health in their laws and instead have statutes that govern this aspect (Valdez-Santiago et al., 2021). Approximately 14 out of Mexico's 32 states have implemented LSMs, which comprise 43.8% of the country's regions. Precisely, Baja California, Campeche, Chihuahua, Mexico City, Jalisco, Michoacán, Morelos, Nuevo Leon, Queretaro, San Luis Potos, Sinaloa, Sonora, Yucatan, and Zacatecas are the states involved (Valdez-Santiago et al., 2021). Mexico City and Morelos published their respective statutes in February and October 2011, respectively. The remainder of the laws were enacted between 2011 and 2017 and went into effect between 2011 and 2018 (Valdez-Santiago et al., 2021). Sonora is the only state with both LSM and suicide-specific legislation, while only Coahuila and Sonora (6.3%) have a dedicated suicide law (Valdez-Santiago et al., 2021).

It is essential to note that Chihuahua, Tabasco, Aguascalientes, and Baja California have the greatest suicide rates in Mexico, especially among adolescents. Only Baja California has an LSM among these states, and none of the other states have specific legislation addressing suicide (Valdez-Santiago et al., 2021; Valdez-Santiago et al., 2020). Only five of the thirty-one states have incorporated a definition of mental health into their health laws, with the definitions generally aligning with those of the General Health Law (LGS). For instance, Veracruz is the only state to embrace an alternative definition of mental health, which says, a state of complete mental, emotional, and social well-being, not merely the

absence of mental disorders (Valdez-Santiago et al., 2021). It implies self-awareness, the capacity to deal with life's stresses, fruitful work, and contributions to the community (Valdez-Santiago et al., 2021). Notably, fourteen states have neither defined mental health in their health laws nor enacted an LSM, even though thirteen of them have provisions addressing this topic. The exception is the State of Mexico, which has neither an LSM nor a health law since its repeal (Valdez-Santiago et al., 2019).

Some laws discuss suicide prevention, but the level of detail and specificity varies. For example, Morelos requires the establishment of a State Suicide Care and Prevention Program, whereas Chihuahua outlines programs in coordination with public or private institutions for disseminating basic information on mental disorders and measures for detecting, treating, and preventing suicide risk factors (Valdez-Santiago et al., 2019; Valdez-Santiago et al., 2021). Only Campeche and Yucatán have chapters devoted to addressing suicide-related behavioral problems and establishing care and prevention programs (Ministry of Health, 2020). Aguascalientes, Quintana Roo, and Tabasco have outlined suicide care initiatives despite the absence of an LSM (Valdez-Santiago et al., 2021).

Going by the trends of these reviews, it was observed that the Mexican healthcare system accords mental disorders a low priority, mirroring the global trend in middle- and low-income countries (Valdez-Santiago et al., 2021). Looking at the inadequate budget allocation, unequal resource distribution, accessibility obstacles, social barriers, and cultural disparities plague mental health policies (Díaz-Castro et al., 2017; Ministry of Health, 2020; Valdez-Santiago et al., 2021). The preponderance of the mental health budget in Mexico is concentrated in psychiatric hospitals, which receive only 2% of the total healthcare budget. This demonstrates the need for governance reform within the mental health system, with an emphasis on organizing interactions, defining processes, and devising comprehensive mental health policies (Valdez-Santiago et al., 2021).

It is below expectation that a long-established country like Mexico, which has been independent for over 200 years, is yet to have a standard or harmonized federal legislation for suicide, suicide prevention, and mental health practices. Consequently, while global suicide mortality rates are decreasing, Mexico is experiencing an alarming increase, rising

from four suicides per 100,000 inhabitants in 1990 to 5.9 in 2017, and this keeps increasing (Valdez-Santiago et al., 2018; Valdez-Santiago et al., 2020). Looking at this review, one could infer that attention and prevention of suicidal behavior are limited in the legislation and programs of Mexico generally, and where such exist, they are fragmented and dispersed at present. To address these deficiencies and implement effective suicide prevention measures, research and proposals for immediate action are required.

Comparatively, other countries in Latin America face similar structural challenges but have adopted varying degrees of intervention. For instance, Brazil has taken steps toward integrating mental health into its primary healthcare model through the Psychosocial Care Network (RAPS), promoting a community-based approach and reducing reliance on institutionalized care (Marchionatti et al., 2023). However, regional disparities and implementation gaps persist, particularly in rural and under-resourced areas. Similarly, Chile has made significant progress in suicide prevention through its *Programa Nacional de Prevención del Suicidio,* which emphasizes early detection in schools and community education campaigns (Inostroza, 2021). Despite these initiatives, suicide remains a growing concern among adolescents and indigenous populations in both countries, suggesting that localized psychosocial stressors continue to play a crucial role.

Looking beyond Latin America, in high-income countries like Australia and Sweden, more structured national suicide prevention frameworks have yielded some positive outcomes. Australia's *LIFE Framework* and *National Suicide Prevention Strategy* incorporate data-driven interventions, multi-sectoral collaboration, and targeted outreach to at-risk populations (Life in Mind Australia, 2025). Sweden, on the other hand, integrates suicide prevention into its broader public health strategy and uses real-time surveillance to adjust local responses (The Public Health Agency of Sweden, 2025). These approaches demonstrate the value of cohesive legislation, inter-agency coordination, and sustained funding for mental health services.

In contrast, many low- and middle-income countries (LMICs) in Asia and sub-Saharan Africa remain underprepared to handle rising suicide rates (Babajani et al., 2024; Olaseni et al., 2022). In India, for instance, the Mental Healthcare Act of 2017 decriminalized

suicide attempts and mandated access to mental health care, but systemic issues such as stigma, poor funding, and limited human resources hinder its effectiveness (Vadlamani & Gowda, 2019). In Nigeria, suicide is still criminalized, and mental health services are largely inaccessible outside urban centers, despite increasing youth suicide rates (Oguntayo & Gutiérrez-Vega, 2025; Oladeji et al., 2021).

Taken together, all these international comparisons underscore the urgent need for Mexico to adopt a national suicide prevention strategy informed by evidence-based practices and global collaboration. Lessons from countries that have made progress**,** particularly those that prioritize community-based interventions, early detection, legal reforms, and youth-centered approaches**,** could help guide localized adaptations in northern Mexico, where psychosocial stressors such as academic pressure, social isolation, and limited access to mental health services significantly impact university students.

Incidence of suicide and suicidal ideation

More than half of violent deaths among males and 71 percent of violent deaths among females are attributable to suicide, accumulating over 800,000 suicides annually (World Health Organization [WHO], 2014). Additionally, WHO predicts that one person will commit suicide every forty seconds in 2019 (WHO, 2019b). Previous global statistics revealed a substantial increase in the risk of mortality and suicide attempts among high school and college students over the past three decades (WHO, 2014). Suicide can occur at any age and was ranked as the fourth leading cause of mortality among 15- to 29-year-olds worldwide in 2019 (WHO, 2019). In addition, suicide is a global problem that impacts all regions, races, and countries, especially developing nations. Over 77% of 2019's GDP will come from low- and middle-income countries, almost as much as high-income countries (WHO, 2019). Suicide attempts and consummated suicides frequently begin with suicidal thoughts (Paradiso et al., 2016), and this may be included in the concept of suicidal ideation. DSM-5 defines suicidal ideation as "thoughts of harming oneself, including intentionally thinking about or preparing possible means to cause one's death" (APA, 2013, p. 830), cognitive processes in which the suicidal act is considered, reflected upon, and planned (CDC, 2022).

According to a past study, suicide was found to be the second-highest cause of death among youths and middle-aged adults in the Western world (Nock, 2013), and it is widely described as one of the most acute public health challenges in American nations (Stone, 2018). The decision of the WHO in 2014 to increase the annual budget by 15 percent each year is mainly motivated by the fact that deaths by suicide have increased steadily in recent years, making Suicide an unresolved global problem (WHO, 2014).

According to a study, the incidence of suicide increased among the Latin American population by around 25% between 2010 and 2020; Furthermore, the rate of suicide among adults in Latin America surged by above 70% in the year 2021 (Khubchandani & Price, 2022). From 2018 to 2020, there were approximately 11.5 suicide deaths per 100,000 people, an increase from 2015 to 2017's rate of 9.5 per 100,000 (El Paso Matters, 2022). According to a report, 10.5% of Latin American youth aged 10 to 24 have attempted suicide, compared to 7.3% of white females, 5.8% of Latinos, and 4.6% of white male adolescents, respectively (CDC, 2018). According to Ogbolu (2019), suicide accounted for 1.5% of global fatalities in 2019 and was among the top 20 causes of death globally. In addition, the World Health Organization (WHO) found that up to 703,000 suicides are reported annually, with many more suicide attempts going unreported. In addition, Tanner et al. (2022) reported that suicidal ideation is more prevalent among women than men, whereas another study conducted at Juarez in northern parts of Mexico found that suicide attempts are more prevalent among men than women (Oguntayo, 2023).

When the Coronavirus pandemic emerged in 2019, there was concern that conditions such as unemployment, marginalization, and population density could create risk factors that could trigger a surge in suicidal acts (Nock et al., 2013). Some studies projected that the COVID-19 pandemic would make mental health problems, such as suicide, more prominent (Brook et al., 2020). Meanwhile, the study by Borges et al. (2022) showed that, during the first nine months of the epidemic, suicide increased modestly throughout Mexico. Suicide rates increased in seven states, decreased in six states, and stayed the same in 19 states. Statewide suicide death rates in 2019 and 2020 were positively correlated with population. A study showed that there does not appear to have been an increase in suicides since the onset of the pandemic (Borges et al., 2022), as observed globally; for instance, a study found a

decrease in suicides after the pandemic in 12 countries or regions. In the first months of the pandemic, data from approximately 21 countries or proximity areas, including Mexico City, indicated a decrease in suicidal acts; however, the results showed no difference between before and after the pandemic (Pirkis et al., 2021). Although data from states and provinces in several countries were included in this study, a full analysis of possible country variations was beyond the range or focus of this study. Additional research looked at regional variations in the degree of suicide at the local community (prefecture/city) level in Japan (Tanaka & Okamoto, 2021). The rate of increase in suicidal acts at the community/city level during the COVID-19 outbreak was found to be in direct contrast to the previous year. Although in one study only areas with historically low suicide rates witnessed a surge during the pandemic, no correlation was found between the number of verified COVID-19 incidental cases per million persons, financial income, or city population changes. In another study looking at regional variations in France, a modest negative association was found between rates of hospitalization for COVID-19 and hospitalizations for self-inflicted injury (Jollant et al., 2021).

In 2010, Borges et al. (2010a) pointed out that in the Mexican population, the number of completed suicides had been constantly increasing, especially among the young population ranging between 15 to 30 years of age. Other Mexico-based research indicated a 1.25-fold increase in suicide rates between 1990 and 2010, as well as an increase in the country's disability-adjusted life-year ranking from 21 to 11 (Benjet et al., 2019). In 2010, national population surveys in Mexico reported that at least one in 100 Mexican students had attempted suicide in recent years (Borges et al., 2010b).

During the past 40 years, the rates of suicide among Mexicans have increased, affecting men more than women (Borges et al., 2010c). Between 2000 and 2015, the rate of suicide among males surged from 5.95 to 8.50 (per 100,000 inhabitants), while for females it increased from 1.06 to 2.00 (Fernández-Niño et al., 2016). Likewise, an international study (Romero-Pimentel et al., 2018) indicates that from 2014 to 2016, Mexico as a nation witnessed an average of 6,377 suicides per year, an increase of 14% from the 5,547 suicides per year registered between 2010 and 2011. Between 2010 and 2016, a total of 41,321 people committed suicide. Colima, Yucatán, Aguascalientes, and Chihuahua are the five most

affected states with the highest suicide rates in Mexico (INEGI, n.d). Chihuahua registered the highest prevalence and incidence of suicide among these states, with fourteen deaths by suicide per 100,000 inhabitants.

The state's largest city, Ciudad Juárez, is the most affected, and persons whose age range falls between 15 and 24 years have the highest suicide risk (El Paso Matters, 2022; BBC News, 2020). The city of Juárez has one of the highest suicide rates in the country compared to Mexico City, where the average normalized rate was 4.1 per 100,000 in 2015 and 4.8 per 100,000 in 2014, with a ratio of male to female of 6.8 to 1.7 in 2015 and 7.9 to 2.1 in 2014. In 2019, the city of Juárez had a suicide rate of 3.9%, but in 2020, it experienced an 87% increase in reported suicide cases between January and September (INEGI, 2020).

The most recent suicide statistics from the CDC (2021) employed age, income, and gender as variables for classification purposes. In the year 2020, individuals within the age groups of 25 to 34 (with a rate of 18.35 per 100,000) and 75 to 84 (with a rate of 18.43 per 100,000) exhibited the highest suicide rates. Conversely, adults aged 85 and older displayed the highest rate of suicide, amounting to 20.86 per 100,000 individuals. The prevalence of suicide has continually exhibited lower rates among younger cohorts in comparison to middle-aged and older cohorts. The suicide rate among individuals in the age group of 15 to 24 years old in the year 2020 was recorded as 14.24 per 100,000 individuals.

Based on the latest iteration of the 2019 Youth Risk Behavior Survey, it was found that 8.9% of students in grades nine through twelve disclosed having made at least one suicide attempt within the preceding year. The frequency of attempts by female students was nearly twice as high as that of male students, with rates of 11% and 6.6%, respectively. The attempt rates among American Indian and Alaska Native students were found to be the greatest, with a rate of 25.5%. Conversely, white students exhibited the lowest attempt rates, with a rate of 7.9%. Approximately 2.5% of all students reported requiring medical assistance for a suicide attempt. Mixed-race college students need counseling at the highest incidence of 4.1% (CDC, 2021).

Suicide has the potential to manifest across all age groups and was identified as the fourth most prevalent cause of mortality globally within the demographic of individuals aged

15 to 29 in the year 2019. The phenomenon of suicide is a pervasive global issue that transcends geographical boundaries, impacting various places across the world, irrespective of their economic status. According to the World Health Organization (WHO, 2021), a significant majority of global suicides, specifically 77%, took place in countries categorized as low- and middle-income in the year 2019. As an illustration, the global yearly suicide rate within the general population stands at 11.4 per 100,000 individuals, resulting in a fatality occurring almost every 40 seconds.

According to the World Health Organization (WHO, 2014), projections indicate that suicide will contribute to more than 2.4% of the worldwide illness burden by 2020 and subsequent years. Furthermore, it is anticipated that a suicide will transpire every 20 seconds. According to a study conducted by Wonde et al. (2019), the aggregate economic burden associated with suicide in the United States, encompassing both completed suicides and suicide attempts, amounted to $58.4 billion in the year 2013. Nowadays, suicide stands as the tenth most prevalent cause of mortality on a global scale and ranks as the third most common cause of death among individuals aged 15 to 24 (World Health Organization [WHO], 2014). Based on a national scholarly investigation, Chihuahua exhibited the most elevated suicide rate within the nation of Mexico during the year 2016, amounting to 11.4 suicides per 100,000 inhabitants (INEGI, 2020).

From 1970 to 2007, the suicide rate increased by 275% in Mexico country, the cause of this linear experience of increase in suicide rates since 1984 still called for more scientific inquiries (Borges et al., 2010b). Based on a comprehensive analysis conducted on suicide cases among the Mexican population spanning the years 2000 to 2013, it was observed that a total of 64,298 suicides were documented in Mexico during this period. Notably, the suicide rate exhibited an upward trend for both males and females, with figures rising from 5.95 to 8.12 for males and from 1.06 to 1.73 for females. Furthermore, the ratio of male-to-female suicides was found to be 4.5:1. Recent Mexican statistics indicate a national rate of 5.1% per 100,000 individuals (INEGI, 2018).

In Mexico as a whole (consisting of 32 states), suicide is the second greatest cause of death among individuals under the age of 25, according to the Institute for Health Metrics

and Evaluation (2020). Although the global suicide prevalence rate has decreased by 26%, it has grown by 17.1% in Mexico (WHO, 2014b). Suicide is a growing public health concern in Mexico, evidenced by recent data from INEGI (2024). In 2023, 8,837 suicides were recorded, accounting for 1.1% of all deaths that year. The national suicide rate stood at 6.8 per 100,000 inhabitants, with significant gender disparities: 2.5 for women and 11.4 for men. These figures indicate that men are at a substantially higher risk of suicide, reflecting a global trend where male suicide rates consistently outpace female rates (World Health Organization, 2021).

Geographically, the data from INEGI (2024) highlighted regional differences in suicidal incidence. For instance, Chihuahua recorded the highest suicide rates (15.0 per 100,000), followed by Yucatán (14.3), Campeche (10.5), and Aguascalientes (10.5). These disparities suggest the influence of localized socio-economic, cultural, and environmental factors that exacerbate mental health challenges in these regions (INEGI, 2024). The increasing suicide rates and regional variations emphasize the urgent need for targeted interventions, especially in Chihuahua cities. Therefore, the need for a preventive-based research strategy was deemed considerable, looking at gender-specific and regional risk factors and integrating culturally relevant mental health programs to address the unique challenges faced by vulnerable populations. Enhanced mental health service accessibility, public education campaigns, and robust community support systems are critical to reducing the suicide burden across Mexico.

Prevalence of suicide and suicidal ideation in university students

Students enrolled at public universities all around the world have been found to have an alarmingly high prevalence of being prone to having thoughts of suicide. In recent years, it has come to be acknowledged that suicide is one of the top five issues related to mental health that are hurting university students all over the world (WHO, 2019). The annual projected figure for individuals who engage in self-inflicted mortality is 703,000. The prevalence of suicide attempts is approximately twenty times higher than completed suicides, with a significant number of individuals experiencing suicidal ideation.

According to the World Health Organization (WHO, 2021), a substantial number of individuals endure profound despair or encounter substantial disruptions in their lives due to

suicidal tendencies. The study revealed that the African Region had the highest frequency of suicidal ideation at 21.0%, while the Asia Region had the lowest prevalence at 8.0%. The African Region exhibited the highest cumulative prevalence of suicidal ideation, whereas other regions demonstrated rates ranging from 8% to less than 21%. Suicidal ideation and anxiety are widespread among teenagers, despite significant geographical variance (Biswas et al., 2020). In Bangladesh, for example, an increase in the case of suicidal acts was reported; in 2021, amid the backdrop of the Covid-19 pandemic, as many as 101 students from various universities in Bangladesh committed themselves, according to a survey report (The Daily Star, 2022). A suicide review focus study and another university-based study conducted in Pakistan found that youths and students, especially medical students, are a particularly vulnerable group to suicidal ideation (Osama et al., 2014).

Based on a nationwide survey conducted in the United States, it was shown that 4.84 percent of individuals in the young adult population report experiencing suicidal ideation. In the year 2020, the expected population of young adults experiencing severe suicidal ideation was 12.1 million. Furthermore, among adults who self-identified as belonging to two or more racial categories, around 11% reported experiencing serious suicidal thoughts. This percentage was 6% higher than the average prevalence observed among young adults as a whole. The prevalence of suicide ideation varies across different states, ranging from 3.92 percent in Georgia to 7.62 percent in Utah (Mental Health America, 2023).

Suicide is the second leading cause of death among college students, according to a survey conducted at Michigan University and other American campuses (Michigan University Counseling and Psychological Services, 2023). The rate of suicide ideation was found to be elevated in eleven Latin American countries, according to an analysis compiled by healthcare professionals in Washington, D.C. (PAHO, 2022). A meta-analysis of Latin and North America finds that indigenous suicide rates in Brazil, Chile, Colombia, and Peru are significantly higher than non-indigenous suicide rates (Azuero et al., 2017). The rate of suicide ideation was found to be elevated in eleven Latin American countries, according to an analysis compiled by healthcare professionals in Washington, D.C. (PAHO, 2022).

The threat of suicidal intentions and acts among university students does not leave out students in Mexican universities. A study conducted two centuries ago has shown that suicidal thoughts have been progressing in this society, especially among university students (Borges et al., 2010a). Suicidal thoughts among students of tertiary institutions range from 1.8% to 53.6% (Tahir et al., 2014). In a past study conducted among a sample of Mexican university students, 9.7% reported having suicidal thoughts within the preceding year; 0.7% had attempted suicide, and 5.3% had engaged in a non-suicidal social interaction (Benjet et al., 2019). Borges (2021) has pointed out the absence of studies and data on why people develop suicidal ideation or display the behavior across various demographic groups, despite the high suicide risk among students at public universities.

Contrarily, as previously mentioned, there was no significant variation in the prevalence of suicidal ideation among young individuals in Mexico before and during the COVID-19 pandemic. The pre-pandemic rate was at 1.8%, while the pandemic rate was recorded at 2.1% (Valdez-Santiago et al., 2022). Nevertheless, recent evidence from the northern Mexican state of Chihuahua reveals the potential impact on mental well-being caused by the severe and enduring nature of suicides. The presence of a suicide crisis in Chihuahua, along with other Mexican states like Michoacán and Guerrero, as well as neighboring countries such as El Salvador and Honduras, which exhibit higher levels of violence and susceptibility to suicide, particularly among young individuals, suggests the existence of an urgent situation and an underlying public health concern (INEGI, 2020).

In a meta-analysis involving 54 studies, Dubé et al. (2021) discovered that the rate of suicidal thoughts in samples of the young population was shown to be 2.68% for all age groups. Some young age groups were more sensitive than others, even though there may not have been a general rise in suicidal thoughts among Mexican adolescents in response to a natural disaster or crisis, such as a disease epidemic. A previous study showed that young adults who are female are more prone than young men to act suicidally (Nock et al., 2013). Residents of Juarez are likely to develop mental health problems because they live in an unfriendly and dangerous environment and are exposed to dangerous, violent, and certain pollutions within and from a nearby city in the United States, as well as extreme weather conditions that perpetuate their tendency for mental health such as depressive symptoms,

worry of violence, anxiety of both environmental and uncertainty sequelae, and also suicidal thoughts (El Paso Matters, 2022; El Paso Times, 2022; Hernández & Grineski, 2010).

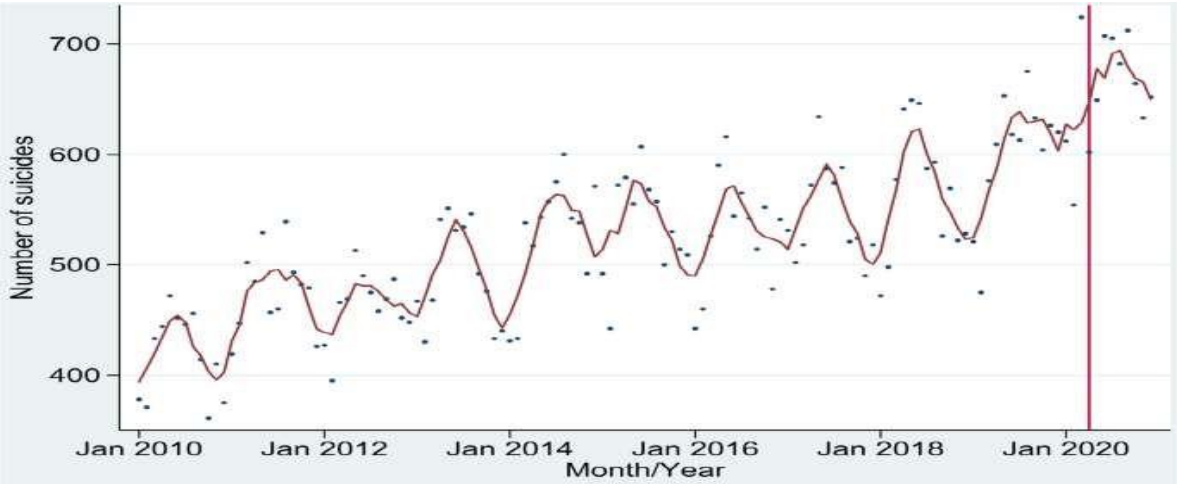
According to the findings, adolescents who had a history of migration were significantly more likely to have suicidal thoughts throughout their lives. When compared to native guys, male students who came from immigrant homes attempted suicide five times more frequently throughout their whole lives. According to Donath et al. (2019), it is well acknowledged that the immigration status and history of immigrants are the key motivating factors behind their suicidal behavior. It would appear that the degree of cultural dissimilarity that exists between the country or region of origin and the location of resettlement is a factor that influences the degree of risk that is associated with "migration history" (Donath et al., 2019). Even internal mobility or migration within the same nation may be associated with greater suicide rates if there are considerable cultural differences and dyadic adaptation (Akkaya-Kalayci et al., 2015); according to the findings of the study, this may be the case. According to Cramer and Kapusta (2017), refugees, sojourners, and immigrants typically have a tendency to develop greater levels of suicidal thoughts and/or behaviors. This is another reason for the phenomenon.

Moreover, information gathered in a study of INEGI (2024) indicated that the national suicide rate increased from 4.9 to 6.8 suicides per 100,000 inhabitants from 2013 to 2023, signifying a concerning upward trend of suicidal incidence and prevalence in Mexico while Juárez having the highest rate among all cities and chihuahua as the highest among Mexican states. This escalation might be the increasing influence of demographic, contextual, social, psychological, and environmental stressors on the mental health of the young adult population; this insinuation and suspicion necessitated a study like the current study.

According to the data presented in Figure 2, gender differences in suicide rates are among the major indicators. For example, the suicide death rate for girls in 2023 was 2.5 per 100,000, which was significantly lower than the rate for males, which was 11.4 per 100,000 (INEGI, 2024). Also, according to the World Health Organization (2021), these statistics highlight a constant gender gap, which is consistent with global patterns that indicate that males generally have higher suicide rates compared to females.

Figure 1.

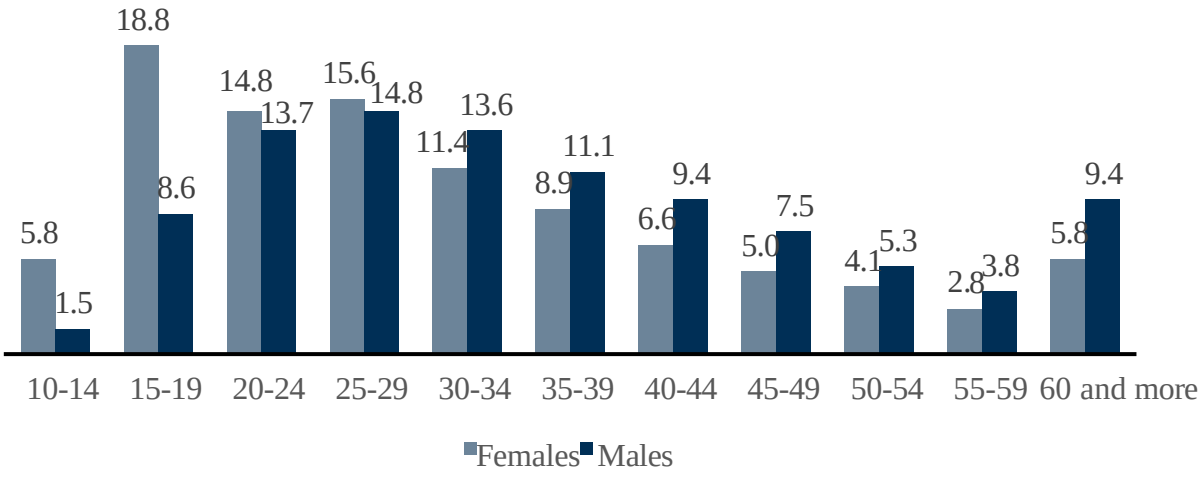
Showing the prevalence of state-level analyses of suicide from 2010-2020 in Mexico



Note. This figure shows the prevalence of state-level analyses of suicide from 2010-2020 in Mexico. From Borges, G., Garcia, J. A., Sinyor, M., Spittal, M. J., Lopez-Arellano, O., & Pirkis, J. (2022). Suicide after and during the COVID-19 pandemic in Mexico City. *Brazilian Journal of Psychiatry*, 44(4), 409–415. https://doi.org/10.47626/1516-4446-2022-2501

Figure 2.

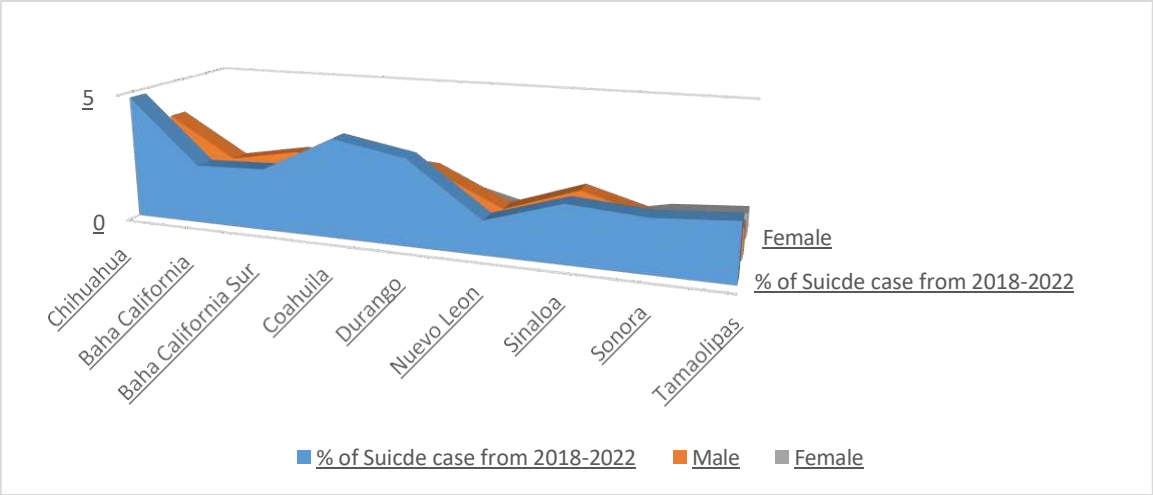
Showing the Suicide Rate From 2013-2023 in Mexico by Sex



Note. Adapted for use from INEGI. (2024, September 6). *Comunicado de prensa núm. 547/24* [Comunicación social]. https://www.inegi.org.mx/contenidos/saladeprensa/aproposito/2024/EAP_Suicidio24.pdf

Figure 3.

Showing the prevalence of suicidal acts among youths between the ages of 15 to 29 years in Northern Mexico



Note. Adapted for use from INEGI. (2022). Aguascalientes, fourth national place in suicides in young people between 15 and 29 years old. INEGI. Aguascalientes, fourth place nationally in suicides in young people from 15 to 29 years old: INEGI (newsweekespanol.com)

Sociodemographic conditions

A past study conducted in India, it was revealed that although suicide behavior did not differ significantly by sociodemographic characteristics, it was more prevalent among women and students aged 18 to 20 (Garg et al., 2022). Also, Bistricean and Shea (2021) discovered that incoming students at the University of Oman who are females who experienced academic stress on university campuses were negatively impacted to think of suicide. When some students are new on campus certain number of them are more susceptible to distress, which precipitates suicide ideation, but this is common among females compared to males (Bistricean et al., 2021). In another study, higher-degree medical students reported a higher incidence of mental distress issues, such as mood disorders, anxiety, stress, and

suicidal acts, compared to undergraduate students in medical departments (Mirza et al., 2021).

Chihuahua experiences a heightened prevalence of suicidal ideation partly due to its environmental vulnerabilities (Horton, 2023; The Conversation, 2018). These include extreme droughts, water scarcity, degradation of agricultural lands, and urban environmental pollution—all exacerbated by climate change (Oguntayo, 2023). Environmental degradation not only impacts physical health and livelihoods but also fuels chronic uncertainty about the future, eco-anxiety, and feelings of helplessness among youth (Horton, 2023). When combined with existing political and social vulnerabilities, the environmental crisis intensifies psychosocial risks, making suicidal ideation more prevalent in the region compared to national averages (Acosta-Gutiérrez & Limas-Hernández, 2024).

Based on a recent study conducted by Cabello-Rangel et al. (2020), it has been determined that the suicide rate among individuals in the age range of 15 to 49 years within the Mexican population stood at 8.76 per 100,000 individuals. Previous studies have found a substantial correlation between certain demographic factors and an elevated likelihood of engaging in suicidal behavior in Mexico (Oguntayo, 2023). Specifically, being of a younger age, possessing a lower level of educational attainment, lacking a history of marriage, and being a refugee have been identified as factors linked with an increased risk of suicidal behavior (Borges et al., 2010a; Borges et al., 2010b; Oguntayo, 2023). The predominant focus of scholarly inquiry about the general populace has been centered on the characterization of suicidal behavior and the demographic variables that are associated with it. For instance, a review of the sociodemographic features of 924 suicide victims indicated that 82.2% of them were males (Haagsma et al., 2020). The median age was 40 years, 75% had a casual job, and only 34% were married (10-13), but no study showed a correlation between suicide and human development or household structure (Cabello-Rangel et al., 2020).

Recent research indicated a notable correlation between suicide ideation and factors such as younger age, sexual and gender minority identification, and public or grants-based insurance (Kirakosian et al., 2023; Phillips & Hempstead, 2017). Compared to cisgender

men, transgender men, and transgender women, nonbinary individuals assigned male at birth and those assigned female at birth exhibited markedly increased odds of current suicidal ideation, after adjusting for age, race, ethnicity, sexual orientation, and insurance status (Kirakosian et al., 2023; Guy et al., 2020).

In general, there is an ambivalent consensus among past studies on the conclusions to be drawn regarding the relationship between demographic characteristics and suicide. Some authors concluded that sociodemographic factors, such as being a woman, having a financial disadvantage, coming from a family with a history of suicide, and other similar things, play a significant role in the predisposition of students to suicidal ideation and the outcomes of such ideation (Mohammadkhani et al., 2020), in general, earlier studies have produced ambiguous conclusions about the relationship between demographic characteristics and suicide. Some writers indicated that sociodemographic characteristics such as being a woman, economic deprivation, coming from a family with a history of suicide, etc., are prevalent in the predisposition of students to suicidal thoughts or attempts and consequences (George et al., 2016; Owusu-Ansah et al., 2020).

Having exposed the demographic factors that previous literature has found as the determinants of suicide ideation the following question is raised to fill gaps in knowledge that were specifically identified around the population of university students in Ciudad Juárez thus; would demographic factors (age range, gender, type of degree programs, scholarship status, sexual orientation, and relationship status) predispose university students to suicidal ideation?

Personality factors

According to a study, new incoming university students with low self-esteem engaged more in suicidal thoughts, especially when their expectations were not met, and were more susceptible to distress, which precipitated their suicidal ideation. Studies found that the non-resilience of individuals and personality factors play a lot of roles in explaining interpersonal conflicts that predispose some young adults to suicidal ideation (George et al., 2016; Owusu-Ansah et al., 2020). A study showed that trait characteristics are important for explaining mental health, especially among people who have suicidal thoughts (Nguyen et al., 2019).

Personality factors could affect the way one behaves and how one feels about oneself and others (Olaseni et al., 2021). There exists compelling data indicating that individuals characterized by poor self-esteem, in conjunction with other co-occurring problems such as anxiety, sorrow, neuroticism, low resilience, and cognitive rigidity, are predisposed to mental health issues, namely the emergence of suicidal ideation (McCracken et al., 2018; Olaseni et al., 2021; van Tuijl et al., 2020). Based on a finding of Choi et al. (2019), different degrees of personality traits like self-esteem and cognitive rigidity were related to the appearance of depression, as well as social support, which can lead to suicidal ideation if it is believed to be lacking. One in ten people who meet the criteria for suicide resilience has the Cognitive rigidity trait, while low self-esteem is linked to risky behaviors, suicidal acts, and other mental health problems (Lannoy et al., 2020).

Higher scores on the cognitive rigidity index were connected with a lower risk of suicide compared with counterparts with rigidity, and flexibility could mitigate the impacts of depression on suicidal ideation over time, according to a study done among select military organizations (Schneider et al., 2020). Based on a study conducted in Australia, dyadic resilience and cognitive rigidity were found to be determinants of suicidal thoughts among tertiary institutions students (Wang et al., 2022). Another study found that Cognitive rigidity protects people from emotional pain and lessens the risk of suicide caused by psychological problems like hopelessness, depression, and low resilience (Gooding et al., 2022). Having exposed the personality factors determining factors of suicide ideation, the following question is raised to fill gaps in knowledge that were specifically identified around the population of university students in Ciudad Juárez as follows: to what degree will personality factors (resilience and cognitive rigidity traits) influence suicidal ideations among selected university students?

Emotional factors and mental health challenges

According to research, various mental health disorders, such as a lack of desire for food, insufficient motivation, psychosomatic reactions, and sleeplessness, were revealed to be related to suicidal thoughts (Spillane et al., 2018). Some Mexico-based studies have found that being mentally ill, especially being depressed, experiencing moments of psychological

crisis, being bereavement pain, conflict, disasters, experiences of violence and abuse, loss, and having previously had depressive episodes and anxieties were found to significantly correlated with a high risk of suicidal acts in Mexico (Borges et al., 2010a, Borges et al. al., 2010b).

According to Mackenzie et al. (2011) and WHO (2019), depression in all types of mental illness is the leading determinant of suicidal behavior among university or higher institution students worldwide. In other studies, carried out around the world, possible psychosocial predictors of this phenomenon have been revealed such as; in Nigeria people with a depression history or episode (Buhari et al., 2021), inadequate social support in Norway (Wichstrom, 2000), and in the United States, it is substance abuse (Trust for American Health, 2022); in Australia low resilience, cognitive rigidity, and maladaptive coping among university students (Han et al., 2022). Also, research on challenges related to substance abuse has been found among youth in India, the USA, and the United Kingdom as a cause of suicidal thoughts (Manzar et al., 2021).

Also, the study of Bistricean et al. (2021) showed that new intakes at the University with emotional maladjustment were negatively impacted by injuring or killing themselves when confronted with university rigors, often referred to as stress. When some students are new on campus certain number of them are more susceptible to distress, which precipitates suicide ideation (Bistricean et al., 2021). Other findings also report that being psychologically distressed, having a mental illness, especially depression, experiencing moments of crisis, having pain and illness, chronic diseases, weak family and social ties, conflict, disasters, experiences of violence and abuse, loss, being a refugee, and having previously had suicidal thoughts are significantly associated with increased risk of suicidal behavior in Mexico (Borges et al., 2010a, Borges et al. al., 2010b, Olaseni et al., 2021).

Based on a study conducted in settings with greater incomes, participants found that health status, physical disability, and activity levels are connected with rates of suicide thoughts, attempts, recurrence, and suicide completion. This study discovered that enhanced health indicators such as; quality of life, lower levels of perceived ability and poor health, having chronic diseases and pain, and higher levels of depression, and self-harm, suicidal

thoughts, and completed suicide are associated (WHO, 2014). Depression, which can sometimes lead to suicidal impulses, is, therefore, one of the risk factors for university students. Furthermore, students who have trouble adjusting to a new environment by staying away from home, making new friends, and adapting to the transition from high school to university or higher institution life tend to think about suicidal acts (Al-Marooq et al., 2015; Santos et al., 2017). Meanwhile, depression and anxiety as significant components of psychological distress have also been discovered as common phenomena in Mexican students (both undergraduates and postgraduates) and even among students of Universidad Autonoma de Ciudad Juárez (Borges et al., 2017; González-Macip et al., 2000; Portillo-Reyes et al., 2021).

Similarly, research conducted among university students from Ethiopia and Brazil (Dachew et al., 2018; Santos et al., 2017) has demonstrated that the usage of alcohol or drugs is the predominant risk factor for high or moderate suicide rates. According to Garcia-Williams et al. (2014), there is evidence suggesting a correlation between suicide ideation and depression as well as loneliness among both undergraduate and graduate students. Additionally, when substance abuse is prevalent, and drug misuse among youth, unacceptable behaviors like suicidal acts may increase during and after graduation from high institutions (Benjet et al., 2019). Apart from psychologically related factors, academic trajectory, and maladaptive skills in university students have been discovered as risk factors of psychopathology like suicidal ideation (Buhari et al., 2021; Han et al., 2022; Olaseni et al.., 2021; Oguntayo et al., 2022; Veresova et al., 2024). Having exposed the emotional and psychological factors determining suicide ideation in the past literature, the following question is raised to fill gaps in knowledge that were specifically identified around the population of university students in Ciudad Juárez thus; how will emotional factors (anxiety and depression) influence suicidal ideation among students of university?

Academic trajectory and/or difficulties in adapting to university life

Poor academic performance has been found as one of the predictors of suicidal behaviors among students. Studies have shown that students with poor academic achievement do think of harming self and are at risk of suicide and non-suicidal self-injurious

(NSSI) behaviors (Everardo et al., 2017; Smith et al., 2022; Wachter & Wester, 2020). In addition, suicidal students were dissatisfied with their academic achievement, and course studies are predisposed to suicidal thoughts considerably among students (Garg et al., 2022). In a study conducted by Bistricean et al. (2021), it was discovered that incoming students at the University who had academic maladjustment were negatively impacted to think of suicide while on campus. According to Mackenzie et al. (2011) and WHO (2019), depression in all types of mental illness is the leading determinant of suicidal ideation among university students worldwide.

Based on cohort studies and vital statistics, it has been determined that the chance of severe suicidal ideation and attempt among students lowers by sixty percent for each point increase in a group's grading system (ranging from one to five) (Jablonska et al., 2014). Several survey studies have identified an association between subpar academic performance and a statistically significant increase in both suicidal thoughts and the formulation of suicide plans. However, no such correlation has been observed among actual suicide attempts. Moreover, this association was solely detected about ideation of suicide, rather than actual instances of suicide attempts (Jablonska et al., 2014; Orozco et al., 2018).

According to the findings of additional research, the likelihood of a student attempting suicide is multiplied by a factor of five for those who have a negative impression of their academic accomplishment compared to those who have an above-average perception of their academic success (Orozco et al., 2018). A researcher has identified a significant association between the views of academic performance among middle school children and their inclination towards suicidal thoughts. The study provided evidence indicating that individuals' self-perceived academic achievement was found to be a significant factor contributing to the chance of experiencing suicidal thoughts. This suggests that there is a relationship between academic achievement and suicidal ideation, which is consistent across both primary and secondary levels of education (Orozco et al., 2018). In addition to academic challenges, familial characteristics have been found to predict suicide ideation. Having identified academic trajectory and coping difficulties as determinants of suicidal ideation, the following question is posed to fill knowledge gaps about the university student population in Ciudad Juárez: How will academic trajectory and coping difficulties in university (poor

resilience and cognitive rigidity traits) contribute to suicidal ideation among selected university students?

Family factors

Various familial factors have been found as determinants of suicidal ideation such as; losing one's parent to death or suicide, and painful feeling of suicide committed by close kinsmen, partners, and friends (Spillane et al., 2018; Yasir-Arafat, 2022). Recurrent suicidal incidence in a family or among cliques can be caused by a complete suicide committed by loved ones (Cabello-Rangel et al., 2020). In contrast, familial characteristics are highly and negatively related to suicide rates in a study conducted in Mexico (Borges et al., 2021). Also, being unmarried, being a member of a dyadic family, and having a previous family member with a history of completed suicidal acts are significantly linked with a high risk of suicidal behavior or acts in Mexico (Borges et al., 2010a; Borges et al. al., 2010b).

The risk factors for suicide within a social context may be analyzed through the functioning or dysfunction of the family prior to the incidence of suicide, which could influence the suicide outcomes for other relatives (Cerel, 2008). In addition, suicide could influence family communication and the growth of children (Cerel, 2008; Yasgor, 2018). Additionally, research has indicated that parents who have experienced the tragic loss of a child due to suicide tend to have a higher incidence of divorce compared to parents who have not encountered such a devastating event (Bolton et al., 2013; Yasir-Arafat, 2022). Family and friends distinguish the sadness that follows a suicide from other types of loss. In addition to deep feelings of hurt, people may experience anger, remorse, and uncertainty (Levi-Belz & Gilo, 2020). The mental health of friends and family members of suicidal people is significantly affected.

According to a Canadian study, it was found that parents who have lost an individual, relative, or child to suicide have greater risks of moodiness, sadness, medical complications, and high financial instability, sometimes even before the son or daughter's suicide (Tracy, 2022). After a child's death, parents frequently experience anxiety and family instability that results in divorce (Tracy, 2022). A study conducted by John Hopkins University in 2010 revealed that children who experienced the loss of a parent due to suicide exhibited an

increased propensity towards developing suicidal ideation (John Hopkins University, 2010). More so, there exists a positive correlation between the age of a kid at the time of a parent's suicide and the likelihood of the child afterward engaging in suicidal behavior (John Hopkins University, 2010). According to a study from Bangladesh, suicide is a psychopathology that has a negative impact on society. Therefore, it is considered a problem as the commission of this act of behavior has negative effects on others. This is why the suicide rate continues to rise (Ara et al., 2016).

When some students lose contact with family members of the family or feel nostalgia on campus certain number of them are more susceptible to distress, which precipitates suicide ideation (Bistricean et al., 2021). In families, childhood adversity is a serious challenge, while recent university-based research has reported a strong link between the history of childhood adversity and suicidal thoughts among university undergraduates (Olaseni et al., 2021). Similarly, some studies found similar results in both American and Asian nations (Blosnich et al., 2021; Murray & Wright, 2006). According to Murray (2006), several different forms of family abuse, including physical abuse, psychological maltreatment, parental divorce, and parental neglect, were significantly related to suicidal thoughts.

In another study that examined the correlation between a familial environment characterized by stress and instances of self-harm which involved hospital treatment within the city of Glasgow, it was found that there was a link between traumatic family environment experiences and a range of adverse health effects in adults, such as mental disorders and suicidal behaviors (Clare et al., 2018). In addition, a study indicated a positive and direct correlation between suicide incidence among Mexicans with familial problems and their familial position (Cabello-Rangel et al., 2020). Having exposed the familial factors that past studies as shown as determining factors of suicidal ideation the following question is raised to fill gaps in knowledge that were specifically identified around the population of university students in Ciudad Juárez thus; how will familial difficulties (marital status of parent and perceived home environment) contribute to suicidal thoughts among students in a university?

Physical health problems

Some studies have shown that various physical disorders such as acute abdominal pain, lack of desire for appetite, and lack of energy can cause painful feelings that could predispose individuals to suicidal thoughts (Spillane et al., 2018). Similarly, individuals diagnosed with HIV/AIDS, COVID-19, and some terminal illnesses exhibit a significantly elevated prevalence of suicidal ideation and suicide attempts, ranging from 7 to 36 times greater than that observed in the general population (Wonde et al., 2019). According to comprehensive global research conducted by Wonde et al. (2019), the prevalence of suicidal ideation among young adults who are HIV-positive was determined to be 27.1%. Furthermore, this study posits that there is a positive correlation between the prevalence of illness infection and the frequency of both suicidal attempts and suicidal ideations among individuals. Based on a range of scholarly investigations, the global incidence of suicidal thoughts and actions among young individuals afflicted with HIV-AIDS exhibits variability; specifically, studies have indicated a prevalence of 10% for suicidal ideation in the southeastern region of the United States of America (Arseniou et al., 2014), 21.6% in Chicago (Martinez et al., 2009), 14% in Canada (Cheung, & Dewa, 2006 in Wonde et al., 2022), 15.5% in Thailand (Lee et al., 2011), 9.7% in Jamaica (Abell et al., 2012), and 11% in Rwanda (Fawzi et al., 2016).

A Mexican-based study's findings also report that being physically disabled, having pain and illness, and having chronic diseases are significantly related to an increased risk of suicidal ideations (Borges et al., 2010a, Borges et al. al., 2010b). In addition, various physical conditions such as acute physical health, serious abdominal pain, lack of desire for desire for food or eating disorders, and lack of energy, are associated with suicidal acts (Spillane et al., 2018). During the initial stages of the COVID-19 epidemic, a comprehensive investigation conducted across 21 middle-income countries found no empirical support for a rise in suicide mortality rates within the broader populace (Pirkis et al., 2021). However, in Mexico, incidents of suicide increased (Borges et al., 2022), which could probably be the side effects of the COVID-19 lockdown and the height of social restrictions as well as confinement during the pandemic. Having exposed the physical health factors that past studies as shown as determining factors of suicidal ideation, the following question is raised to fill gaps in

knowledge that were specifically identified around the population of university students in Ciudad Juárez thus; in what manner will the health status of selected university students contribute to suicidal ideation?

Social factors

Agents of socialization have direct or indirect impacts on children's upbringing such as familial, school, cultural, and religious experiences, to buttress this assertion recent university-based research has reported a strong link between social problems like the history of family adverse experiences and suicide ideation among undergraduate students (Olaseni et al., 2021). Additionally, it has been seen in several studies that college students who face difficulties in relationships or exhibit poor social intelligence are more likely to engage in suicidal actions and non-suicidal self-injurious (NSSI) behaviors compared to their peers (Everardo et al., 2017; Wachter & Wester, 2020). Furthermore, certain studies in the Western world found that physical abuse from the family was significantly correlated with suicidal ideations (Blosnich et al., 2021; Murray, 2006; Turner & Colburn, 2022; Wang et al., 2023). Other studies have found that varying degrees of perceived social support deprivation are determinants of suicidal ideation in young people, whether in the general population or the tertiary institution setting (Choi et al., 2019; Lannoy et al., 2020).

The report from a meta-analysis study, which included 118 studies and 692266 participants who met the eligibility criteria, showed a significant inverse relationship between social support and suicidal ideation, plans, attempts, and suicide deaths (Darvishi et al., 2024). Several studies have consistently demonstrated an inverse association between social support and suicidality (Darvishi et al., 2024; McClay et al., 2020; Xiao et al., 2020). All these referenced studies concluded that social support plays a preventive role in various suicidal behaviors, including suicidal ideation, suicide plans, suicide attempts, and suicide death. A meta-analysis revealed a potential association between social support and a lower risk of suicidal ideations and behaviors across diverse populations (Darvishi et al., 2024). However, to address the conceptual underpinnings of the main objective of this study, it is essential to precisely examine the intricate dynamics between social support and suicidal ideations, both qualitatively and quantitatively.

Education, types of degree programs, levels of degree, and type of career have been found as social determinants of psychopathology among college students. From the literature, a concerning trend has been observed among higher-degree students, particularly those in science and medical-based programs, regarding their mental health. Several studies conducted in Mexico and globally have consistently reported a higher incidence of mental distress issues, including mood disorders, anxiety, stress, and suicidal acts, among higher-degree students compared to undergraduate students in medical departments (Melo-Carrillo et al., 2012; Mirza et al., 2021; Osama et al., 2014). Research indicating that medical students, both at the undergraduate and graduate entry levels, experience higher rates of stress and mental health issues compared to their peers in other disciplines suggests that this pattern of trend is a global phenomenon (Atkinson, 2020; Garg et al., 2019).

Also, Atkinson (2020) found that while the majority of medical students initially enter medical school with normal levels of psychological distress, a significant proportion exhibit elevated levels of depressive, anxiety, and stress symptoms during their academic journey, with no discernible difference between undergraduate and graduate-entry students. Moreover, the Council on Medical Education reported a disturbing statistic, indicating that medical students are three times more likely to die by suicide than the general public (Jacob et al., 2020). Beyond the medical field, graduate students in science are also facing a mental health crisis, attributed to various pressures such as funding challenges, intense competition, and uncertain job prospects in academia (Weli, 2021).

Studies have shown that graduate students are six times more likely to experience depression and anxiety than the general population, with a substantial portion seeking help for these mental health issues (Berstein, 2015; Weli, 2021). Specific surveys conducted at individual institutions, such as the University of California, Berkeley, and the University of Arizona, further underscore the prevalence of mental health concerns among graduate students in science and technological-based (STEM) fields, with significant proportions reporting depression and high-stress levels (Berstein, 2015; Pillay, 2021). The COVID-19 pandemic has exacerbated this already precarious situation, with studies indicating a significant increase in depression and anxiety symptoms among students, further highlighting

the urgent need to address mental health challenges in academia (Borges et al., 2022; Valdez-Santiago et al., 2022).

Likewise, the students-teachers relationship is one of the most common risk factors for high or moderate mental health, according to research carried out among university students from Nigeria, it further expands that being female, having a poor relationship with parents, parents' employment position, poor teacher-student relationship, family structure, non-financial supports, and taking non-preferred courses, poor peer relationship and in-accessibility to tutor advise were revealed to be associated with psychological distress such as anxiety and depressive symptoms that could lead to suicidal thoughts among university undergraduates (Oguntayo et al., 2022). In addition, studies have indicated that financial challenges, loneliness, relationship conflict, study life imbalance, intimate partner relationships, and disease all contribute to the psychological distress of university students, which could eventually lead to suicidal thoughts (Kabugi, 2019; Olaseni et al., 2021). Additionally, when there is a prevalence of social problems like substance abuse, drug misuse, and rape among youth, unaccepted behaviors like suicidal acts may increase during and after graduation from high institutions (Benjet et al., 2019).

In a study, perceived social isolation and low belongingness were shown to be linked to possible suicidal thoughts in both undergraduate and postgraduate students, as they find it hard to make friends in their new area or at their university, which can have negative psychological impacts such as loneliness. This result is also consistent with findings from narrative reviews indicating that perceived social isolation and low belongingness to peers were factors found to correlate with suicidal ideation among American young adults (Calati et al., 2019). Also, the trauma that young people go through during childhood development in the family could serve as acute determinants of suicidal ideation (Copley, 2024; Murray et al., 2006).

A research body in the United States has noted that youth who identify themselves as gender diverse, also, individuals living with physical disabilities, and people of color who experience discrimination are predisposed to suicidal ideation (Hogg Foundation for Mental Health, 2020). Research showed that being young, having a less formal education, being

single, being from a low-income family and having weak social ties; society conflict, disasters, experiences of violence and abuse, loss, belonging to a minority group outside heterosexual orientation and being an immigrant or refugee are significantly correlated with high risk of suicidal behavior in Mexico (Borges et al., 2010a, Borges et al. al., 2010b; Olaseni et al., 2023). Meanwhile, studies have discovered that not social mayhem but certain contextual factors like pollution and environmental hazards could precipitate suicidal ideations (Helbich et al., 2018; Oguntayo, 2023). Having exposed the social factors that past studies as shown as determining factors of suicidal ideation, the following question is raised to fill gaps in knowledge that were specifically identified around the population of university students in Juárez city thus; how will the sexual orientation, relationship status, type of degree programs and perceived social support determine suicidal ideation among university students?

Contextual factors

Contextual variables are environmental features that influence psychological health behavior, such as suicidal behavior (Seimetz et al., 2016). A body of the review has found that unconducive contextual factors such as environmental, geographical location, and unfavorable circumstantial or situational factors among youths have been found as determinants of suicidal ideations; also, individuals living in a physically violent environment tend to develop mental health challenges like depression and suicidal thoughts, and people of color who experienced discrimination are predisposed to mental distress, such as suicidal ideation (Hogg Foundation for Mental Health, 2020). Even suicide mortality is positively correlated with environmental concerns among people in the Netherlands (Helbich et al., 2018).

Climate change impacts a significant proportion of the population throughout various geographical locations in the United States, as well also in the northern and border cities of Mexico, leading to a range of public health concerns (Oguntayo, 2023). The range of mental health implications linked to climate change includes several problems, such as anxiety disorders, disruptions in sleep patterns, symptoms of depression, post-traumatic stress disorder, and suicidal ideation (WHO, 2013). The association between climate change and

studies related to mental health continues to be a significant area of concern. The scarcity of academic literature on this subject can potentially be attributed to its complex and unique characteristics.

A study conducted by Cianconi et al. (2020) has identified a multitude of temporal implications of climate change on mental well-being. According to recent data derived from the National Survey of the States of Mexico, there appears to be a correlation between concerns regarding environmental hazards and instances of suicide. Specifically, it was observed that periods characterized by the absence of precipitation and the presence of extreme or severe weather conditions, with temperatures ranging from 30°C to 40°C (86-104°F), were associated with cases of male suicide by hanging. A research investigation conducted on the residents of Chihuahua State spanning the period from 2008 to 2018 revealed the presence of a discernible pattern and temporal fluctuation, wherein the months of June and July consistently exhibited the greatest rates of suicide. The observed rise in prevalence has been noted to be significant within the demographic of individuals between the ages of 10 and 34 (Fernández-López et al., 2021).

A research investigation carried out in Chihuahua State revealed the presence of a discernible seasonal pattern characterized by statistically significant cycles recurring every 12 months (Horton, 2023; The Conversation, 2018). Notably, this pattern exhibited peaks in May, albeit exclusively among males residing in urban areas, commencing in 2007. Additionally, the study identified certain specific dates throughout the year that exhibited a heightened frequency of suicide incidents. Remarkably, these dates coincided with widely celebrated holidays, including New Year's Day, Mother's Day, Mexican Independence Day, and Christmas (Fernández-Niño et al., 2016; The Conversation, 2018). Furthermore, a scholarly investigation centered on the American continent revealed that contextual variables exert an influence on suicidal tendencies (Horton, 2023). This particular study employed predictions derived from global climate models to anticipate the potential impact of future temperature changes on rates of suicide. The user's text lacks sufficient information to be rewritten academically. According to Horton (2023), it is projected that by the year 2050, the United States may have a 1.4% increase in the suicide rate, while Mexico may witness a 2.3% increase. This rise in suicide rates is attributed to concerns and anxieties arising from

environmental degradation and the implications of climate change, particularly among the younger population. Research findings have also demonstrated that meteorological conditions and temporal factors exert an impact on suicide tendencies.

Previous research has indicated that a significant proportion of suicide events, specifically 88%, were seen to transpire over the summer months of June to August (Borges et al., 2022; Fernández-Niño et al., et al., 2016; Oguntayo, 2023). Hence, this research postulated that climatic variables, particularly elevated temperatures or severe weather events, heighten the responsiveness of the neural system and intensify the susceptibility of those at risk of suicide. Based on the aforementioned research, it has been ascertained that environmental factors play a significant role in influencing suicide ideation. Henceforth, the subsequent inquiry is raised to address the existing gaps in knowledge about the student demographic at the university in Ciudad Juárez: to what degree do contextual elements (such as environmental anxiety, climate, and season in the year) contributed to the inclination of students towards contemplating suicide?

In summary, the psychosocial and demographics that are related to suicidal thoughts or ideations and as risk factors occur in several dimensions:

Sociodemographic conditions: All age ranges, with greater emphasis on around 40 years of age, being male, having a temporary job, being a migrant or refugee, not being married, and gender diversity.

Personality traits: low self-esteem, low resilience, cognitive rigidity, maladaptive coping, and adjustment problems.

Emotional factors and mental health challenges: Depression and previous thoughts of suicide and other mental illnesses, emotional adjustment problems, anxiety, high stress levels and problematic behavior such as the use of psychoactive substances.

Academic trajectory and/or difficulties in adapting to university life: Low academic performance, adjustment difficulties, type of program or course studying in school, and unrealistic expectations regarding the university experience.

Family factors: weak family ties, adverse childhood experiences, experiencing crises and conflicts and having experienced significant losses, experiences of violence and abuses.

Physical health problems: Physical illnesses, pain, HIV-AIDS diagnosis, physical disability, appetite disorders, and sleep disorders.

Social factors: Social isolation, weak social ties, inadequate social support, experiences of violence and abuse, difficulty building peer relationships, environmental hazards, pollution, career and educational distress, and social adjustment problems.

Contextual factors: Live disasters and environmental worry and concerns.

Impacts of suicide across strata in society

Suicidal behavior and thinking represent problems that affect negatively individuals, families, communities, and societies. People are also affected emotionally, physically, and financially by suicide and suicide attempts. Survivors of suicide attempts can sustain devastating injuries with long-term health implications (Stanley et al., 2019). Survivors of suicide may also experience depression and mental health co-morbidity. The survival of individuals who have attempted suicide is associated with a mortality rate of less than ninety percent, so introducing a level of ambiguity and apprehension within the community. The impact of suicide and suicide attempts extends deeply to individuals' social networks, including friends, family members, workplace, and the broader community (CDC, 2020). Those who survive a suicide attempt may go through a variety of emotions, including erroneous belief, rage, guilt, grief, worry, and even thoughts of ending their own lives (Chapman & Dixon-Gordon, 2007).

Based on the findings of Jordan (2017), a significant proportion of individuals who experience the loss of a loved one due to suicide exhibit heightened levels of anxiety, stress, and depression, with around one-fourth affected. Furthermore, nearly one-fifth of these individuals demonstrate elevated levels of post-traumatic stress disorder (PTSD), which subsequently contributes to the decline of their social and occupational circumstances. Suicide ranks prominently as a primary contributor to mortality within the youth

demographic in the United States. Based on the results of a study conducted on young adults, it was observed that persons who have encountered the premature demise of their loved ones as a result of natural causes are comparatively less inclined to engage in suicidal behaviors as compared to those who have faced the death of loved ones due to suicide (Pitman et al., 2016). Notably, suicidal thoughts had the same impact regardless of whether the mourners were connected by blood or not.

Also, suicidal incidents as traumatic life events experienced by loved ones can influence the physical health of friends and family members of perpetrators, while bereavement specifically is linked to health deteriorating outcomes (Pitman et al., 2016). Bereavement is related to an increase in mortality risk and also in physical ailments and psychological distress or related problems (WHO, 2014). Typically, the degree of grief fluctuates, alternating with short periods of relief. In a recent case-control study, for example, the risk of heart disease, hypertension, diabetes, and chronic cardiac disease was elevated among grieving parents, according to a study (Bolton et al., 2013). Consequently, suicide incidence among family members has an irreparable effect on people who remain, affecting each person, the entire family, and the broader social networks of society at large (Yasgor, 2018).

The intensity of the negative effects of suicide also depends on cultural aspects. Due to certain people's belief in the sanctity of life, the main Bengali religious traditions view suicide as an offense against God. It was often considered a serious crime that contravenes social norms and regulations as aberrant behavior that disrupts both family and society in countries like Bangladesh (Ara et al., 2016). According to Chu et al. (2017), the findings of their study indicate a significant association between cultural life events, such as family conflict and minority stress, and both suicidal ideation and attempts. Furthermore, the study suggests that these cultural life events indirectly influence suicidal thoughts by exerting an impact on specific stressors related to cultural values, such as depression and hopelessness, as well as cultural idioms of distress. More so, the correlation between minority stress and ideation may be fully accounted for by general or cultural unease. Furthermore, it has been shown that the implementation of cultural suicide sanctions has proven to be efficacious in alleviating the adverse consequences associated with the correlation between familial discord

and contemplation of self-harm. The presence of cultural idioms of suffering exhibited a significant correlation with both suicide attempts and ideation, as well as despair and feelings of hopelessness (Chu et al., 2020).

In addition, suicidal behavior affects health systems. A patient's suicidal inclination is one of the most challenging treatment scenarios a healthcare professional can face (Hagen et al., 2017). Regardless of specialty, a patient's suicide may have a greater effect on medical staff than other sudden deaths (Hultsjo et al., 2019). More often than not, healthcare personnel attempt to regulate their psychological thought patterns and experiences as a result of a patient's suicidal behavior, ultimately altering their interactions with patients as adults (Hagen et al., 2017). This type of event can leave healthcare professionals feeling shocked, devastated, unhappy, guilty, ashamed, and heartbroken. Sometimes the psychological devastation of healthcare professionals leads them to contemplate or even attempt suicide (Hultsjo et al., 2019). After witnessing a patient's suicide, these healthcare professionals may have experienced a traumatic event that presented them with a problem (Pratt & Jachna 2015). A significant economic impact is also had on society as a whole by suicide. It is estimated that suicide and non-fatal self-inflicted will cost the USA approximately $490 billion in 2019. Also, these costs include medical expenses, lost income, the statistical value of life, and costs associated with the quality of life (CDC, 2020).

In summary, suicide generates negative impacts in different contexts. The act of suicide exerts adverse effects on the family unit, leading to a range of emotional and psychological challenges experienced by the surviving family members. These challenges encompass feelings of sorrow, shock, anger, guilt, despair, anxiety, post-traumatic stress disorder, stress, depression, and potentially even contemplation of self-harm. The relatives of those who have died by suicide face a heightened susceptibility to the onset of many physical health conditions, including cardiovascular disease, hypertension, diabetes, and chronic obstructive pulmonary disease (COPD). The occurrence of suicide has a consequential and detrimental effect on intrafamilial communication dynamics, as well as the developmental trajectory of children. Furthermore, the rate of divorce is significantly higher for the parents of the children of someone who has committed suicide. It encourages

uncertainty and fear in the community, in addition to anxiety, post-traumatic stress disorders, and a decrease in social cohesion.

In certain communities, it is considered a sin against God. Suicide in the community can inspire others to do the same; as a result, suicide is considered a major criminal violation that impoverishes other people to commit suicide and thus increases the mortality rate in the community. In the health system, suicide has negative effects on health workers, generating psychopathologies such as anxiety, stress, sadness, PTSD, and degradation of social life. When healthcare workers see a patient commit suicide, they often feel shocked, devastated, unhappy, guilty, ashamed, and heartbroken. It can even cause them to attempt suicide. The negative impacts are also in the dimensions of a nation's economy, such as the loss of manpower, the devaluation of the quality of life that has costs, and public spending on suicide management, which can also be onerous. Consequently, suicide could deplete a nation's income.

Suicide and Preventive Intervention

Efforts to enhance suicide prevention, control, and intervention have been intensified with the approval of the initial WHO Mental Health Action Plan by the 66th World Health Assembly in May 2013 (Pan American Health Organization (PAHO), 2013). The suicide prevention section presents a target of achieving a 10% decrease in worldwide suicide rates by the year 2020. The Plan contextualizes the problem by providing epidemiological data on global suicide patterns and associated risk and protection variables. In addition, it emphasizes the need for national suicide prevention initiatives and provides recommendations for preventive actions (WHO, 2018). Furthermore, studies are beginning to find new ways to increase access to the most promising interventions. According to a recent editorial by Pappas (2021), the pandemic compelled the expansion of mental health for suicide prevention, which is understudied at present. One study indicated that tele-mental health has great potential to enhance the geographic reach of suicide interventions and may fit naturally into approaches such as dialectical behavior therapy (DBT), which currently involves telephone training (Pappas, 2021). Although Pappas's research indicated that the number of training providers who can provide therapy remains a limiting factor, researchers must evaluate additional brief

interventions in the context of tele-mental health. If shorter treatment durations are effective, waiting lists will be reduced. The utilization of implementation science will play a crucial role in ascertaining the most effective strategies to assist first responders in conducting patient screenings and facilitating their connection to accessible and beneficial services. This is particularly pertinent due to the notable prevalence of individuals with suicidal ideation, spanning various socioeconomic backgrounds, who seek treatment within emergency departments (Pappas, 2021). DBT is the only proven strategy for avoiding adolescent suicide, however, the majority of pediatric patients are unable to access treatment because of its high cost and practical difficulties.

As far as the researcher of this study is aware, there is a paucity of research addressing the prevalence of suicide outcomes among young adults attending tertiary colleges in Mexico, notably in universities in Chihuahua State, and in Juárez City. Suicide research in this country, particularly university research, is scarce (Borges et al., 2017). Although some efforts have been made to shed light on the issue in Mexico over the past decade, there are still not enough studies examining student environments (Borges et al., 2017, Borges et al., 2010a; Borges et al., 2015). Even though previous studies have discovered numerous predictors of suicidal ideations or thoughts, this study has identified and raised several unanswered questions; the final study is expected to provide answers.

The combination of all these factors in university students will be investigated through the following hypothetical work conjecture: age, gender, financial support/scholarship status, sexual orientation, relationship status, social support, emotional instability (anxiety and depression), resilience, environmental worry, and cognitive rigidity will have a significant joint and independent prediction on suicidal ideation among the selected participants.

Research Question

How is the quantitative data collected through an online survey further understood when compared with the simultaneously conducted qualitative study data collected through interviews to investigate the risk and protective factors of suicidal ideation among selected UACJ students?

Justification of the study

This study has societal advantages and is crucial for many reasons, including its ability to predict human behavior, facilitate social control, stop the pathology of suicidal behaviors (ideation and suicidal attempts), and ultimately build a society resilient enough to face challenges that might otherwise lead to suicidal acts. The university community would benefit from understanding the need to improve the human well-being of students, particularly the dispositional aspect of financial constraints. Additionally, it will promote the growth of knowledge, particularly in social sciences and mental health. Anonymity, participant safety, confidentiality, informed consent, and reward are ethical considerations that would benefit the target population and society. In addition, this program secured the support of CONACYT from the Mexican federal government. Studies from other countries have shown that a study like this tends to achieve all this among students using a survey study like this (Ara, 2016; Tracy, 2022).

The study has practical implications. As a matter of urgency, this study will provide a contextually tested form of a preventative approach to suicidal ideation by using the discovered determining variables of suicidal ideations in university students, considering the unique needs of the university community to mitigate the problem of suicidal thoughts and consequences. The result will be cutting edge in the most advanced scientific literature on clinical health psychology due to suicide. In other areas beyond Mexico, the power of this form of intervention delivery will be very useful to the university body of practice and policymakers to determine how effectively the intervention could achieve behavioral and cognitive change, especially preventive measures against suicidal ideation among students. University students the disposition factors component presented by the potential participants

will determine a campus suicide prevention intervention. This will be new and interesting for scientists who study mental health.

The predictive factors that are the main interest of this study are hardly found in the Mexican literature; this project will surely add value to the locally based literature on the psychosocial determinants of suicidal ideation among university students. Suicide risk can be reduced through coping and problem-solving skills linked to social characteristics such as gender, friends, socioeconomic level, educational level, family, cultural elements, and social support; accessibility to physical and psychological distress treatment; and restricted access to fatal methods. Less is known about the factors that predispose, perpetuate, precipitate, and protect than about the risk determinants of suicidal acts in general. Identifying and understanding these suicide risk factors in Mexican university students can be of vital importance to taking preventive actions. This study will generate useful protocols that will help other researchers discover what causes college students to act suicidal and why.

The findings of this proposed study will be publishable and available in both traditional and electronic libraries, especially in the archive of the Autonomous University of Ciudad Juárez for users such as researchers, practitioners, youth, students, relatives of victims and survivors, as well as expand access to aid or preventive measures. Therefore, public awareness campaigns, in publications, magazines, and social networks, are possible strategies for universal access to knowledge in this research, as the case may be.

General objective

The general objective of this study is to quantitatively assess certain sociodemographic and psychological maladjustment factors using an online survey and further explore qualitative data using in-depth interviews to investigate the risk and protective factors that aid the development of prevention-based intervention modules for university students at the UACJ, Juárez, in northern Mexico.

Specific objectives

The specific objectives of this research are to:

1. Evaluate whether age and psycho-maladjustment factors (resilience, social support, cognitive rigidity, anxiety, depression, and environmental worry degradation) influence students' suicidal ideation.

2. Explore whether participants' age, sex, relationship status, scholarship status, sexual orientation, anxiety, depression, social support, cognitive rigidity, and environmental worry degradation will contribute separately and jointly to the development of suicidal ideation among the selected participants.

3. Examine whether resilience and social support will determine the association between cognitive rigidity, anxiety, depression, environmental crisis worry, and suicidal ideation among selected participants.

4. Investigate the mental health needs of student respondents to yield valuable insights into risk and protective factors that could aid in the development of intervention strategies to address stressors and reduce the risk of suicidal ideation among university students.

General hypothesis

The data collected during the quantitative and qualitative phases will significantly complement each other and, therefore, contribute to the understanding of psychosocial risk and protective factors of suicidal ideation, thereby facilitating the development of an intervention-based suicide prevention program (I-SPP) among selected university students in northern Mexico.

Specific hypothesis

1. There will be a significant relationship between age, resilience, social support, anxiety, depression, cognitive rigidity, environmental degradation worry, and suicidal ideation among the selected participants.

2. Respondents' age, sex, relationship status, scholarship status, sexual orientation, anxiety, depression, social support, cognitive rigidity, and environmental degradation worry will have a significant joint and independent prediction of suicidal ideation among the selected participants.
3. Resilience and social support will mediate significant relationships between anxiety, depression, cognitive rigidity, environmental degradation worry, and suicidal ideation among selected participants.
4. In the qualitative phase, it was hypothesized that investigating respondents' mental health needs would provide important insights into the risks and protective factors to facilitate the development of intervention modules aimed at addressing stressors and lowering the risk of suicidal ideation among university students.

In summary, suicide remains a global concern, including in Mexico, where university students are particularly affected. As far as the researcher knows, this is the first study focused on suicide prevention at the Universidad Autónoma de Ciudad Juárez (UACJ), exploring students' psychosocial needs and risks to inform mitigation strategies of suicide. The study reviewed suicide prevalence across continents, the Americas, Mexico, Chihuahua State, Juárez, and universities, where rising rates have been observed. It was drawn from existing literature on sociodemographic and psychological maladjustment factors linked to increasing suicidal behavior in and beyond Mexico. Key risk factors include age (notably around 40 and below), male gender, migrant/refugee status, unmarried status, and gender diversity; personality traits like low self-esteem, low resilience, cognitive rigidity, maladaptive coping, and adjustment problems; and emotional and mental health challenges such as depression, anxiety, high stress, and prior suicidal thoughts.

Problem behaviors include substance use, uneven academic progress, low performance, program dissatisfaction, and unrealistic expectations of university life. Social and familial challenges—such as illness, disability, HIV/AIDS, pain, eating and sleep disorders, isolation, lack of support, academic burnout, violence, and environmental stress—are also examined. The study's research questions, objectives, and hypotheses center on these variables (e.g., gender, degree type, age, sexual orientation, resilience, cognitive rigidity, anxiety,

depression, environmental worry), proposing that these risk and protective factors influence suicidal ideation among students at UACJ.

Chapter I: Theoretical framework

Health psychology, an area of study within psychology, has been delving into the cognitive, behavioral, biological, and social dimensions to elucidate health-related disorders and diseases. Health psychology specialists are considered to be in the vanguard of efforts to elucidate and prevent various psychopathologies, including suicide, which ranks as the second most significant cause of mortality among young adults globally (WHO, 2021). Although certain psychosocial and genetic disorders are widespread, health psychology has produced a plethora of behavioral and psychological models and theories to analyze, predict, and explain physical health issues and a multitude of medical conditions that function as predictors of suicidal ideation. The epistemological approach determines the selection of models and theories in this research; specific epistemological approaches, theories, and models have been deliberately employed to elucidate the topic under investigation.

Epistemological perspective of the study

As far back as the late 18th century, health psychology is in response to the inadequacies of the conventional biomedical approach and models regarding explaining and treating mental and physical health problems (Wade & Degni, 2012). Biomedical models, which predominantly concentrate on biological elements, proved inadequate for tackling intricate health concerns, including mental health issues such as suicidal ideation. Health psychology underwent a paradigm shift, transitioning from an exclusively biological standpoint to an all-encompassing biopsychosocial framework (Wade et al., 2012). Thoughts of self-harm, suicide, or suicidal ideation are intricate phenomena that are presently comprehended through the lens of the biopsychosocial paradigm. Suicidal ideation may be influenced by biological factors such as neurological abnormalities, neurotransmitter imbalances, and genetic predispositions. Research has demonstrated the existence of a genetic element in suicidal tendencies (Mann, 2003).

The social and environmental aspects of suicidal ideation are crucial. Events in life that are stressful, exposure to suicidal behavior on social networks, and a lack of social support can all exacerbate suicidal ideation (Joiner, 2005). In health psychology, there is a

growing body of knowledge that recognizes how important it is to understand and lessen suicidal thoughts by looking at them through an integrative lens that includes biological, psychological, and social factors. The transition of health psychology from a predominantly biomedical paradigm to a biopsychosocial framework has contributed to a deeper comprehension of intricate matters such as suicidal ideations. In their investigations, scientists and professionals now take into account biological, psychological, and social factors; this integrative approach is crucial for the development of effective prevention and intervention strategies for mental health issues and suicidal ideation.

In recent decades, there has been significant progress in the comprehension of suicidal ideation. Biological, psychological, social, environmental, and cultural aspects influence suicide behavior, according to a study (WHO, 2013). Simultaneously, epidemiology has contributed to the identification of numerous suicide risks and preventive variables, both in the general population and in susceptible populations. It has also become clear that there are cultural differences in suicide risk, with cultures playing both protective and risk-increasing roles. The International Association for Suicide Prevention organizes World Suicide Prevention Day, which takes place on September 10th each year. It is worth noting that 28 nations have currently implemented national suicide prevention programs, according to the WHO (2013). Furthermore, numerous suicide research centers and academic programs focusing on suicide prevention have been established. In addition, numerous centers for the study of suicide and academic programs focusing on suicide prevention have been developed (WHO, 2016).

Numerous studies have examined the elements that contribute to suicidal ideation in Mexico, but additional studies are necessary to find additional indicators that may be connected with suicidal behaviors to improve the design of school-based suicide prevention programs (Orozco et al., 2018; WHO, 2013). The objective of the member states of the World Health Organization (WHO), with a special focus on developing nations, is to achieve a reduction of 10% in suicide rates by the year 2020 (WHO, 2013). Furthermore, a recent study conducted in Mexico has proposed the exploration of suicide prevention initiatives within the public education system. The World Health Organization (2013) advocates the development of comprehensive interventions at various levels, including individual,

selective, and universal. The ultimate objective is to garner support from other public entities, including the health and public safety sectors, to establish a cohesive national program for suicide prevention that encompasses individuals ranging from adolescents to adults (Orozco et al., 2018). There is a pressing need for interventions inside higher education institutions, specifically targeting young individuals in Mexico and globally, to mitigate the occurrence of suicide ideation and suicidal behavior tendencies.

This study adopts the epistemological perspectives of Popper (1957) and Kuhn (1962). Popper (1957) emphasizes the importance of falsifiability and empirical testing for scientific progress, insisting that theories be testable and refutable. Meanwhile, Kuhn (1962) highlights paradigm shifts in science, where established paradigms give way to new ones due to anomalies and changes in scientific consensus, demonstrating that scientific knowledge doesn't advance linearly. Utilizing these epistemological perspectives, the study employs interpersonal psychological theory (IPT) (Joiner, 2005) and three-step theory (3ST) (Klonsky et al., 2015) to guide the study on suicide ideation predictors. The study subjects these theories to rigorous empirical testing, aligning with Popper's emphasis on falsifiability.

According to Kuhn (1962), recognizing when a paradigm shift is occurring or about to occur is crucial for researchers, as it guides their work and enables them to anticipate emerging trends and research orientations. This study will benefit from adopting a historical perspective to trace the evolution of ideas, methodologies, and theories within the context of suicide and the psychosocial variables that serve as independent variables in this study. This historical context can provide insights into the motivations behind certain research directions and the challenges encountered by earlier researchers by analyzing the factors that led to these changes and the impact they had on subsequent research. These concepts promote interdisciplinary research methods. By acknowledging that various scientific disciplines operate within their paradigms, researchers can explore opportunities for collaboration across disciplines. This can result in novel approaches and solutions to difficult problems (Kuhn, 2012). This is because the study desires a greater understanding of the underlying assumptions and theories that influence suicidal behaviors in this research, which could lead to a more rigorous and self-aware evaluation of the risk and protective factors of suicidal ideation. Using this approach, Kuhn provided a framework for explaining the evolution of

knowledge and the dynamics of scientific communities, thereby making difficult concepts more accessible to students and the general public.

Incorporating Poper's (1959) epistemological insights into this research enriched the intellectual profundity of the study and provided a more comprehensive understanding of the research's context. This methodology is expected to benefit researchers by ensuring that the hypotheses are explicit and specific, which facilitates empirical testing and the advancement of knowledge. This is because it could promote a self-correcting mechanism in science, aiding in the elimination of incorrect or incomplete ideas. When confronted with contradictory evidence, Popper's approach encourages researchers to maintain an open mind and be willing to abandon or modify the old theories. Incorporating old concepts into new data will prevent scientific dogmatism and promote intellectual humility in this study (Smithurst, 1996). This study stretched the boundaries of knowledge and made groundbreaking discoveries by challenging existing theories and fostering the development of new ones. These criteria have been used to evaluate the validity of various assumptions, hypotheses, and theories, as well as the compatibility of the selected theories with the present research's findings.

In summary, it is believed that these eclectic perspectives have influenced how scientists assess theories and evolve science, guiding theory testing and research on suicidal ideation. This approach is capable of enriching methodology while prioritizing empirical testing rigor and falsifiability. It will ensure the reliability of evidence-based information. Embracing Kuhn's paradigm shifts and the nonlinearity of scientific progress promotes openness to novel perspectives and fosters innovation. Therefore, this epistemological synthesis has enriched the current study, which has acknowledged the dynamic nature of scientific knowledge and the importance of rigorous scientific methodology, including the potential for hypothesis confirmation in line with theoretical explanation to rule out falsification and gain paradigm shifts where necessary in the understanding of risk factors, protective factors, and prevention-based interventions in the context of suicidal behaviors.

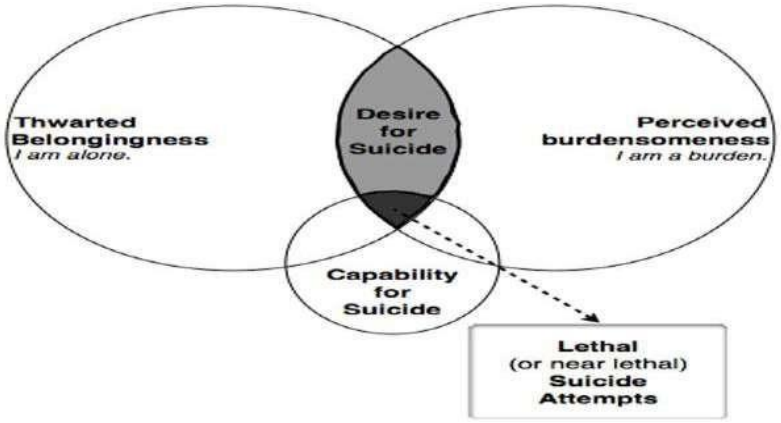
Theoretical explanations around suicide

Interpersonal Psychological Theory [IPT] of Suicidal Ideation

Joiner propounded the Interpersonal Psychological Theory (IPT) in the year 2005. Joiner's (2005) theory explained suicide as the act of pondering, considering, or planning on self-harm that triggers suicidal behavior. This definition is used to describe the behavior of suicidal thoughts. Joiner (2005) identified the following three elements as the primary contributors to the problem of suicide in the general population; perceived burden, a low sense of belongingness, and acquired capability to commit suicide. Two components make up an individual's perceived burden: (a) the individual's self-hatred due to the belief that they are a burden to others as a result of their excessively defective nature, and (b) the individual's beliefs that they are a burden to others or close others (such as friends) as a result of the belief that others would be better off without them (Joiner, 2005; Van Orden et al., 2010). Self-deprecating words or feelings of worthlessness exhibit the first part of self-deprecating beliefs (Van Orden et al., 2010), while an individual's claim that their presence harms teachers, coworkers, relatives, and close friends demonstrates the second factor, perceived as a burden to others (Van Orden et al., 2010).

Figure 4.

Showing a brief analysis of the Interpersonal Theory [IPT] of Suicide



Note. Adapted for use from Van Orden, K. A., Witte, T. K., Cukrowicz, K. C., Braithwaite, S. R., Selby, E. A., & Joiner Jr, T. E. (2010). The interpersonal theory of suicide. *Psychological Review*, *117* (2), 575. https://pubmed.ncbi.nlm.nih.gov/20438238/

Social isolation is broadly described as low belongingness and is often measured by the social connectedness of individuals. Specifically, low belongingness encompasses both subjective and objective social isolation (perceived and actual belonging, respectively), thus perceived inappropriate belonging contributes to suicidal thoughts. Specifically, Joiner (2005) asserted that suicidal thought or ideation is influenced by a conceptual interaction between perceived burden and frustrated belonging and the courage to decide that ideation (ability) leads to the attempt.

Precisely, IPT provides a framework for understanding the steps leading to suicidal ideation in humans and how preventive measures can be taken using this model as a guide for an interventional prevention program. This theory posits that suicidal thoughts arise when two key factors are present: perceived burdensomeness and thwarted belongingness. Perceived burdensomeness refers to feeling like a burden on others, while thwarted belongingness pertains to feeling disconnected and lacking a sense of belonging thus:

Step 1: Perceived Burdensomeness: Suicidal thoughts emerge when individuals perceive themselves as burdens on others. This can stem from various factors, such as feeling like they are a financial or emotional burden to their loved ones. Step 2: Thwarted Belongingness: Feelings of thwarted belongingness, in which people experience a profound sense of loneliness and alienation, feeling disconnected from others and lacking meaningful social connections, also fuel suicidal ideation. Step 3: Capability for Suicide: While suicidal thoughts may exist, they are translated into actual suicide attempts when individuals possess the capability for suicide.

This capability is characterized by a reduced fear of death and an increased tolerance for physical pain. Individuals who have developed this capability are more likely to act on their suicidal thoughts. A recent meta-analysis supports the relationship between perceived burdensomeness and suicidal thoughts, highlighting the importance of this factor in the development of suicidal ideation. However, the evidence for thwarted belongingness as a

contributor to suicidal ideation is less robust, according to this analysis (De Beurs et al., 2019). Previous researchers have critiqued the Interpersonal Theory of Suicide for emphasizing interpersonal characteristics such as perceived burdensomeness and thwarted belongingness (Smith et al., 2019). While these characteristics are significant, human connections are extremely complicated, and they may not account for the whole spectrum of factors that contribute to suicidal conduct, including biological and individual psychological aspects pain process that leads to suicidal behavior (Van Orden et al., 2010; Smith et al., 2019). Finally, IPT does not provide complete information on intervention and preventative techniques, but is more concerned with studying the psychology of suicide than with practical answers. Because of this, the Three Steps Theory has been used to fill some of these gaps (Klonsky & May, 2015).

The Three Steps Theory [3ST] of Suicidal Ideation

In 2014, Klonsky and May initiated their investigation into developing and using the Three Steps Theory to explain suicide behaviors. The 3ST was guided by research and intention for the prevention of suicide, it was also guided by an "ideation to action" paradigm. To test the hypotheses, Klonsky et al. (2018) used Amazon's Mechanical Turk to deliver self-report questionnaires to a total of 910 adults living in the United States (oversampling for ideation and attempt history). According to this view, (a) the occurrence of suicidal thoughts and (b) the transition from thoughts to actual acts of self-harm are two separate processes that can be explained by two different sets of factors.

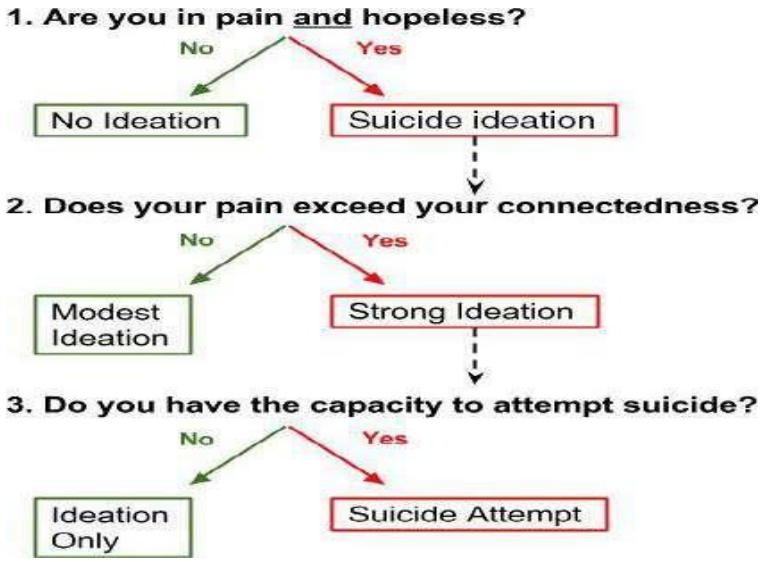
Moreover, the theory postulates and situates suicide within the ideation-to-action paradigm by employing a tripartite sequence (3ST; Klonsky et al., 2021). The 3ST (see Figure 5) makes three essential claims about the suicide process. For starters, having suicidal thoughts is the result of experiencing physical distress and a loss of hope at the same time. Second, feeling connected to others reduces the likelihood that suicidal thoughts will become more intense in people who are at risk of developing them (that is, those who experience both pain and hopelessness).

The 3ST is widely regarded as a simple, evidence-based, and actionable theory that explains suicide in terms of four factors: pain, hopelessness, connection, and suicidal

capability. Empirical evidence supports it, and it has implications for suicide prevention. In essence, having intense thoughts of taking one's own life can result in an attempt, but this is only the case if the individual also possesses the means and the capacity (both dispositional and acquired) to carry out such an act.

Figure 5.

Showing a brief analysis of the Theory of the three steps [3ST]



Note. This table was to supplement the information in the 3ST explanation as extracted from the title of the webpage of the International Association for Cognitive Psychotherapy: Klonsky, E. D., & May, A. M. (2015). The Three-Step Theory. https://www2.psych.ubc.ca/~klonsky/publications/3ST.pdf.

The 3ST posited that before one attempted suicide, they would have perceived pain, felt hopeless, and been unable to bear the situation, but would have the ability to attempt suicide as an escape route away from the perceived distress. Drawing upon the theoretical framework and comprehension of the Three-Step Theory, it is plausible to assert that this theory holds promise for propelling the domain of suicide study and prevention forward. The 3ST provides a comprehensive framework for understanding the development of suicidal ideation and offers insights into potential prevention strategies. This theory posits that suicidal ideation involves three key steps: the development of hopelessness, the escalation of

psychological pain, and the confluence of both hopelessness and psychological pain leading to suicidal desire. Understanding these steps is crucial for developing effective interventions aimed at preventing suicidal ideation and mitigating its consequences.

The first step in the 3ST involves the development of hopelessness. This refers to a pervasive sense of despair and pessimism about the future, wherein individuals perceive their circumstances as insurmountable and see no possibility for improvement. Factors contributing to the development of hopelessness may include chronic stressors, traumatic life events, or unmet expectations, which erode one's sense of agency and optimism. Interventions aimed at preventing this step may focus on enhancing resilience, coping skills, and fostering a sense of purpose and meaning in life through therapeutic approaches such as cognitive-resilience therapy (CRT) and positive psychology interventions (Oguntayo et al., 2024a).

The second step in the 3ST is the escalation of psychological pain. This involves an intensification of emotional distress, often stemming from internal or external stressors, unresolved trauma, or mental health disorders such as depression and anxiety. As psychological pain becomes more acute, individuals may experience overwhelming feelings of despair, loneliness, and emotional anguish, further contributing to suicidal ideation. Prevention strategies targeting this step may involve early detection and treatment of mental health disorders, psychoeducation on coping strategies, and enhancing social support networks through peer support groups and community interventions (Oguntayo et al., 2024a; Smith et al., 2023).

The third step in the 3ST is the confluence of hopelessness and psychological pain leading to suicidal desire. At this stage, individuals experience a fusion of hopelessness and intense psychological pain, which culminates in a desire to escape from their emotional suffering through suicidal means. Crisis intervention strategies, safety planning, and limiting access to lethal means are some of the things that can be done to stop this step. Ongoing psychological support and monitoring can also help with underlying emotional distress and the development of healthy ways to cope (Oguntayo et al., 2024b). The Three-Step Theory of Suicidal Ideation provides a nuanced understanding of the sequential processes underlying

the development of suicidal ideation and offers valuable insights into targeted prevention strategies. By addressing factors contributing to the development of hopelessness and psychological pain and intervening at critical junctures in the pathway to suicidal desire, it is possible to effectively prevent and mitigate the risk of suicidal ideation in individuals.

Despite the theory's simplicity and empirical preventative implications, it has numerous significant flaws. First, the hypothesis was developed using a nonclinical population; although there was a high proportion of participants with a history of suicidal ideation and attempts, the sample exhibited less severe psychopathology and suicidal ideation in outpatients compared to the inpatient sample. Furthermore, the study focused on young adults, especially individuals aged 18 to 35, and relied on self-reported measures, which are sometimes biased.

Theoretical Explanations for the Independent Variables

Cullen's Social Support Theory

Cullen (1994) explains social support as "the perception or actual instrumental and/or expressive dispositions provided by a person or groups of persons, community, social networks, and trusted partners". According to Cullen (1994), first, the recipient's subjective sense of social support must be differentiated from the objective offer of social assistance. Individuals "understand, evaluate, and expect" social assistance within the context of social circumstances (Cullen, 1994: 530). Secondly, the expressive and/or instrumental aspect of social assistance is also described. Instrumental social support is the means to an end (or goal), such as seeking financial or material help. A connection that provides expressive social support is both a means to an end and an end in itself. The greater a person's social network's social support, the less tendency to engage in self-harm or violence according to Cullen’s concepts.

Cullen's Social Support Theory suggests that distress which could lead to suicidal ideation arises from a lack of social support. Initially, individuals experience stressors that

strain their social networks, leading to decreased support. This isolation exacerbates psychological distress, fostering suicidal thoughts. Prevention involves bolstering social connections through interventions that enhance interpersonal relationships, provide emotional support, and cultivate a sense of belonging. By addressing social support deficits, interventions can mitigate the progression of suicidal ideation by promoting resilience and providing individuals with the resources needed to cope with stressors (Chouhy, 2019).

The provision of social support has the potential to alleviate the influence of risk factors linked to crime, delinquency, and suicidal behavior and function as a safeguard against involvement in delinquent activities. It was hypothesized and found that among young adults such as students, the higher the social support, particularly favorable and long-lasting ties with parents, friends, teachers, and the community, the lower the risk of suicidal behavior (Acoba, 2024), therefore the current study decided to replicate and reaffirm this assertion. It was assumed that social support could produce an environment conducive to the formation of sound mental health and prosocial ties with society, which could aid the reduction of stressors of suicidal ideation.

Kort-Butler theory of social support

This theory was a build-up and expansion of Cullen's ideology proposed by Kort-Butler in 2017 to explain social support in an elaborate way, having seen Cullen's explanation as too narrow. Kort-Butler (2017) proposes that the concept of social support is better understood by combining the macro level (community or society) and the micro level (family, friends, and affiliates) of support and evaluating the perceived consequences of these social supports. About the recipient. It focuses on how caring societies and caring people affect an individual's well-being and how suitable the recipient believes they are; if they are considered adequate, then it could be termed "social support". According to Kort-Butler (2017), the balance in these two different situations could be used to describe how well social support works.

Kort-Butler (2017) provided a more detailed explanation of Cullen's theory on social support, highlighting its dynamic nature in supporting the exchange of many resources, including humans, materials, and cultural and social capital. This form of interaction can

occur at multiple levels, encompassing both individual interactions and broader social structures, such as communities and states. Informal forms of support are frequently offered through social networks, but formal forms of support are typically enabled by institutions that possess authoritative power, such as government aid programs or the legal system. According to Kort-Butler (2017), the presence of social support has a significant impact on both delinquency and other measures of well-being, exerting both direct and indirect impacts. Numerous studies have demonstrated that the availability of social support has a pivotal role in reducing criminal behavior among individuals.

This theory supports the IPT position that suicidal ideation arises when individuals lack adequate social support (De Beurs et al., 2019; Kort-Butler, 2014). Firstly, stressors challenge coping abilities. Secondly, the quality of available support influences its effectiveness; empathetic support buffers against distress. Lastly, robust social networks serve as a protective factor, mitigating the impact of stressors on mental health. Prevention involves enhancing both the availability and quality of social support through community programs, strengthening relationships, and teaching effective communication skills, thereby reducing the risk of suicidal ideation.

In summary, this theory presents a divergence from Cullen's definition by elucidating social support as a dynamic process involving the transmission of several forms of capital, including human, cultural, material, and social capital. This transmission occurs within the context of interpersonal relationships as well as within broader social units such as communities and states, fostering support between individuals and their respective social entities. Informal support is frequently extended through social ties, while formal support might be rendered by an authoritative organization, such as government assistance programs or the legal system.

Cognitive Flexibility Theory of Rigidity

The Cognitive Flexibility Theory, proposed by Spiro et al. (1992), focuses on learning in complex and ill-structured domains. Here are the key points: (i) cognitive flexibility, which emphasizes the ability to spontaneously restructure one’s knowledge in response to changing situational demands. It encompasses the representation of knowledge in various dimensions

as well as the processes that operate on mental representations, including the assembly of schemas (Hohl & Dolcos, 2024). (ii) Transfer of Knowledge, which is concerned with knowledge and skill transfer beyond initial learning situations. Effective learning is context-dependent, so instruction must be specific. (iii) Constructed Knowledge: this emphasizes that learners need opportunities to develop their representations of information to learn effectively.

Individuals display psychological or cognitive rigidity when they behave in contrast to these three conditions (Hohl et al., 2024). Cognitive flexibility unlike cognitive rigidity refers to the ability to adaptively restructure one's existing knowledge in diverse ways to effectively respond to significant changes in environmental demands, as described by Spiro et al. (1992) in Hohl et al. (2024). Bress and Kiosses (2024) highlighted the significance of assessing both state and trait dimensions of cognitive rigidity such as cognitive reappraisal and its association with suicidal ideation; the findings suggested that state cognitive reappraisal is linked to a reduction in the severity of concurrent suicidal ideation. Moreover, the capacity to reappraise specific stressors and the ability to flexibly manage and adapt to recent stressful events are associated with lower levels of suicidal ideation severity.

The reason for the phenomenon of cognitive rigidity could be attributed to two factors: the way knowledge is stored in the human mind, which involves multiple conceptual dimensions rather than a singular dimension, and the cognitive processes that manipulate these mental representations, such as thought processes. This is in contrast to the alternative approaches of either retrieving a comprehensive schema or constructing a schema. The concept emphasizes the transfer of acquired skills and knowledge outside of the initial learning context (Hohl et al., 2024; Tarasi et al., 2023; Uddin, 2021).

Consequently, the emphasis is placed on presenting information from a variety of perspectives and utilizing a variety of case studies to illustrate a wide range of situations. Moreover, the idea posits that the efficacy of learning is contingent upon the context in which it occurs, hence requiring meticulous training. Furthermore, the notion underscores the significance of knowledge generation. For students to attain effective learning outcomes,

they must be afforded the chance to construct their conceptualizations of information before assimilating novel knowledge in distinct living circumstances (Hohl et al., 2024).

In contrast to receiving a whole schema, the process of constructing a schema involves the main emphasis of the idea placed on the ability to use newly acquired skills and information in situations that are not directly related to learning. As a consequence of this, a focus is placed on presenting the information from a variety of points of view and utilizing several different case studies to highlight a broad range of potential outcomes (Hohl et al., 2024; Spiro et al., 1992; Tarasi et al., 2023; Uddin, 2021).

According to Spiro et al. (1992) in Uddin (2021), individuals with rigid thinking patterns are susceptible to self-injury and such behavior can contribute to suicidal ideation. Firstly, individuals with cognitive rigidity may face stressors triggering negative thoughts (Le et al., 2024). Secondly, rigid cognitive processes hinder adaptive problem-solving, exacerbating distress (Le et al., 2024; Reid et al., 2024). Thirdly, limited flexibility otherwise called rigidity in considering alternative perspectives escalates feelings of hopelessness (Reid et al., 2024). Prevention involves cognitive restructuring interventions to enhance flexibility in thinking and promote adaptive coping strategies (Le et al., 2024; Reid et al., 2024). By challenging negative thought patterns and fostering cognitive flexibility, individuals can better navigate stressors, reducing the likelihood of suicidal ideation (Uddin, 2021).

In summary, the idea of this theory posited that effective learning is based on one's surroundings, which calls for instruction to be particularly specific to be successful. Traditional applications of cognitive flexibility theory include understanding biological, medical, psychological, social, and mental health in general (Hohl et al., 2024; Tarasi et al., 2023; Uddin, 2021). Cognitive flexibility, characterized by the ability to reframe stressors and construct adaptive schemas, is essential for mitigating stress and reducing the risk of suicidal ideation. Cognitive rigidity—marked by resistance to restructuring knowledge—impairs problem-solving, exacerbates feelings of hopelessness, and increases vulnerability to distress. Research highlights that enhancing cognitive flexibility through interventions like cognitive reappraisal and schema construction can improve adaptive coping, enabling individuals to navigate stressors effectively and reduce the severity of suicidal ideation (Bress

& Kiosses, 2024; Hohl et al., 2024). To foster this flexibility, students need opportunities to construct their own representations of information before integrating new knowledge from different life experiences, enabling them to better mitigate suicidal thoughts and navigate life challenges effectively. The current study hypothesized that students who develop effective cognitive flexibility are likely to exhibit lower levels of suicidal ideation and assumed it might be consistent with findings from previous research.

Acceptance and Commitment Theory of Cognitive Rigidity

Hayes was a pioneer in identifying and implementing the cognitive processes that lead to cognitive flexibility (the ability to manage or change irrational thoughts) and cognitive rigidity (the inability to change irrational thinking or behavior into appropriate thoughts that could aid well-being). These concepts became integral to a popular acceptance and mindfulness technique known as Acceptance and Commitment Therapy (Hayes, 2016; Petrolini et al., 2023).

Hayes (2016) simplified the fundamental concepts of psychological adaptation into a few easy-to-understand sentences. It is essential to note that cognitive rigidity is not a state of satisfaction or comfort, but rather the capacity to adapt to the ever-changing requirements of existence, which includes the existence of difficult ideas and emotions. Consequently, the assessment of psychological well-being has been expanded to include not only the alleviation of symptoms but also the individual's capacity to navigate various aspects of life with personal significance. This is because a person's mental health is deemed optimal when they possess the skills necessary to adapt and flourish in an environment characterized by constant novelty and change, as opposed to being an outlier (Chaves, 2021).

Cognitive rigidity consists of three core principles: (1) the combination of openness, acceptance, and defusion; (2) the state of being present, maintaining contact with the present moment, and adopting a self-as-context perspective; and (3) engaging in actions that align with one's values with clarity and commitment (Cohen, 2017). According to Harris (2009), there are six significant mechanisms, including Acceptance was initially conceptualized as "the deliberate act of embracing or accepting what is offered." Frequently, passive

resignation or tolerance is misinterpreted. In contrast, acceptance refers to a sequence of actions comprising a decision and subsequent willingness. Defusion is antithetical to fusion.

Fusion is observed when a person develops a sense of identification with their cognitive processes, affective experiences, and memories, as illustrated by the statement "I am ill." I am experiencing the belief that I am ill, or I am aware of the perception that I am experiencing the belief that I am ill. This phenomenon heightens the sense of disconnection from cognitive processes. Contact with the present moment refers to the state of being consciously aware of both internal and external events without rendering judgment on them as they unfold in the present moment. This does not necessarily imply that the current moment is characterized by pleasure; it could be characterized by discomfort or displeasure instead. Instead of opposing the present circumstance, the individual develops an attitude of acceptance and appreciation for each moment (Harris, 2009; Petrolini et al., 2023).

The concept of "self-as-context" may be viewed as the antonym of "self-as-content." Self-as-context refers to the realization that one's identity is distinct from the observed thoughts, rather than being identical to their content. In contrast to a multiplicity of thoughts, emotions, and feelings, it represents a consistent state of autonomy. e) An individual's values establish their fundamental priorities and provide them with direction and significance. Due to the inherent distinction in their attainability, values are regarded as being of greater significance than concrete goals (Hayes, 2016 in Hohl et al., 2024).

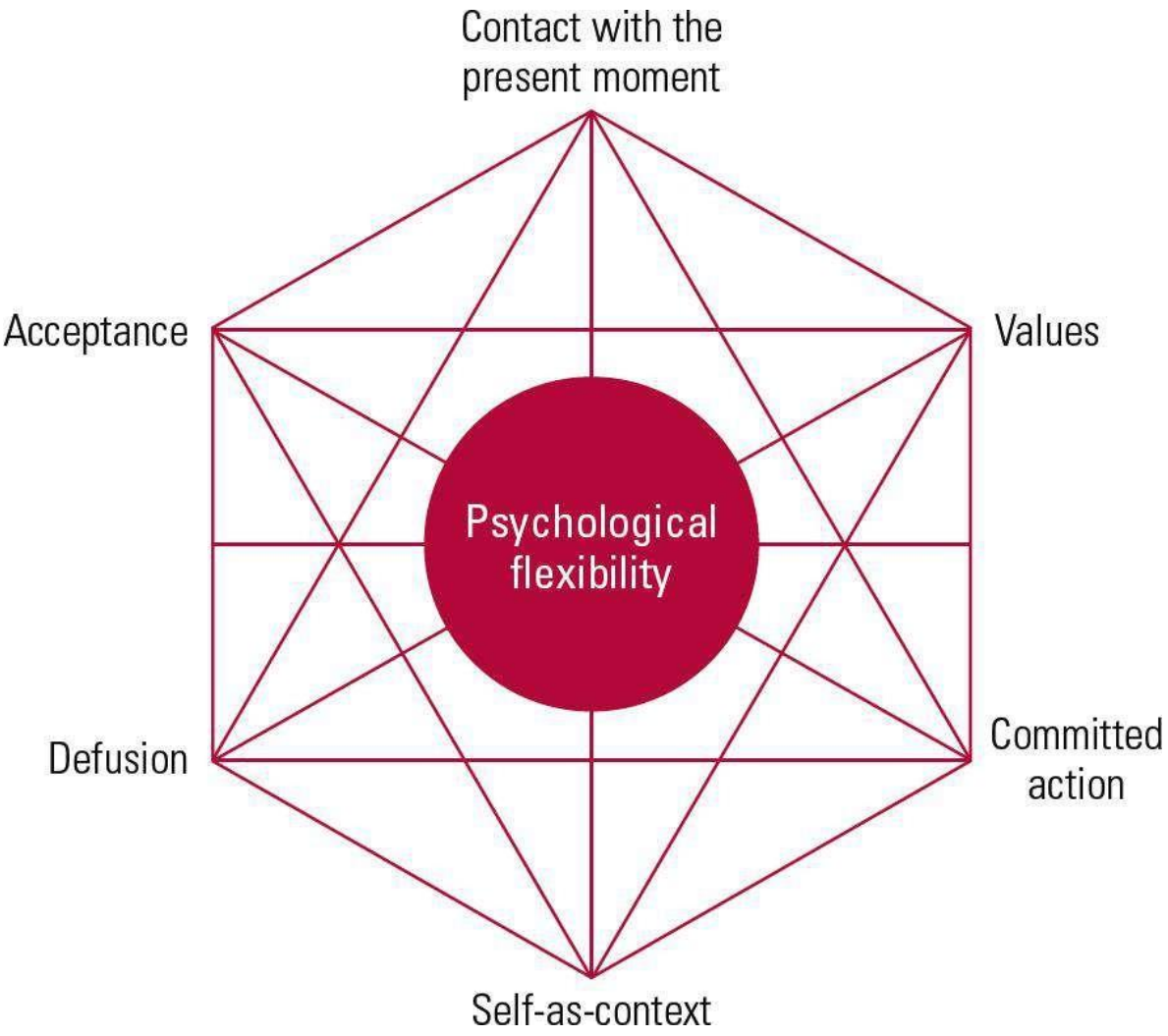
As opposed to representing the ultimate objective, the concept of value could be compared to the guidance provided by a compass. The lack of clarity regarding an individual's values may amplify behaviors that are governed by rules or motivated by avoidance (Hayes, 2016 in Hohl et al., 2024). The user's text is too brief to be academically rewritten. Committed action is a concrete and deliberate action or endeavor undertaken to achieve an objective that is consistent with one's core values. Committed action emphasizes the individual's disposition to persist in the face of adversity, such as anxiety, negative cognitions, emotions, and somatic sensations.

It is possible for control and avoidance to determine opposite actions (Harris, 2009; Petrolini et al., 2023). Psychological distress as a determinant is the result of cognitive

rigidity, according to an ACT perspective (see Figure 6). This pertains to individuals who present with health anxiety as well as other comorbid mental health conditions, utilizing the six fundamental processes integrated within the three pillars of the "triflex" framework (Harris, 2009).

Figure 6.

Showing the Model of Cognitive rigidity Theory



Note. Adapted for use from Harris, R. (2009). *ACT made simple*. Oakland, CA: New Harbinger Publications, Inc. Harris, ACT Made Simple, 2009 | Association for Contextual Behavioral Science (contextualscience.org)

This theory suggests that the avoidance of negative emotions contributes to suicidal ideation (Cohen, 2017). Firstly, individuals experience distressing thoughts and emotions. Secondly, attempts to avoid or suppress these emotions increase cognitive rigidity. Thirdly, inflexible responses to distress lead to maladaptive coping strategies, worsening suicidal ideation. Prevention involves promoting Cognitive rigidity through acceptance of distressing thoughts and emotions and commitment to valued actions. Recent research by Gloster et al. (2020) supports the efficacy of ACT-based interventions in reducing suicidal ideation by enhancing Cognitive rigidity. Cognitive rigidity can lead to inefficient or rigid patterns that contribute to suicidality, which may be caused by behavioral regulation issues (Cohen, 2017).

The Diathesis-Stress Model of Psycho-Maladjustment (Risk and Protective) Factors

The diathesis-stress model, a foundational concept in behavioral science, provides a comprehensive framework for understanding the emergence of psychological disorders, particularly anxiety and depression. Meehl (1962), as cited in Scheeringa (2021), conceptualized this model, and used it to intervene in the longstanding "nature vs. nurture" debate by proposing an interactive dynamic between innate predispositions (diathesis) and stress induced by life experiences.

The term "diathesis," which derives from the Greek word for predisposition or sensibility, refers to a person's innate susceptibility to a particular disorder (Meehl, 1962 in Scheeringa, 2021). Stress, on the other hand, encompasses various challenging life circumstances that act as triggers for the development of the disorder (Broerman, 2017; Taylor & Treur, 2023). The model posits that the confluence of diathesis and stress is crucial for the manifestation of psychological disorders, with the intensity of the diathesis influencing the amount of stress required to trigger the disorder.

This model offers a nuanced understanding of how nature and nurture interact to shape mental health, as past studies hypothesized and defined stress broadly as any life event disrupting psychological equilibrium, which can range from acute traumatic incidents to chronic challenges such as academic difficulties or abusive relationships (Broerman 2017; Meehl, 1962; Scheeringa, 2021). The model emphasizes the intricate interplay between these

stressors and an individual's innate predispositions, highlighting that stress alone is insufficient for the development of psychological disorders.

The diathesis-stress model introduces several key considerations. Firstly, some life circumstances may serve as both diathesis and stress, such as a child genetically predisposed to mental illness while experiencing stress due to a parent's condition. Additionally, the timing of stress within a person's lifespan is crucial because some disorders may have particular "windows of vulnerability" during which stressful events are more likely to trigger them (Colodro-Conde et al., 2018; Lokuge et al., 2011; Scheeringa, 2021). Moreover, positive life circumstances, referred to as protective factors, can counteract stress, reducing the likelihood of disorder emergence. The model also recognizes that different forms of stress play distinct roles across various mental disorders. Positive elements in one's life, conversely, can mitigate the onset of psychological disorders (Lokuge et al., 2011; Nielsen et al., 2020; Scheeringa, 2021).

Research validated this model, demonstrating an interaction effect between genetic risk (innate) factors for depression and anxiety scores on measures of stressful life events that individuals witnessed at a point in time in life (Nielsen et al., 2020; Taylor et al., 2023). Recognizing that suicidal behavior involves an interaction between genetic and early childhood dispositions and later-life stress that leads from anxiety or depression to suicidality, researchers advocate for the model's incorporation in efforts to treat and prevent suicidal tendencies (Colodro-Conde et al., 2018; Taylor et al., 2023).

The Diathesis-Stress Model offers a comprehensive framework for understanding psychological maladjustment and suicide risk by examining how predispositional vulnerabilities (diatheses) interact with life stressors to influence mental health outcomes (Schiele et al., 2020). According to this model, individuals possess varying degrees of inherent susceptibility to mental disorders, which may remain latent until activated by specific environmental or psychosocial stressors. Crucially, the presence of mediators—such as resilience and social support—can significantly shape the trajectory of these interactions, either exacerbating or buffering the path to maladjustment or suicidality (Schiele et al., 2020).

Psychological risk factors or vulnerabilities, or diatheses, include a range of factors that predispose individuals to mental health difficulties (Colodro-Conde et al., 2018; Scheering, 2021). For example, cognitive rigidity—a mental inflexibility that impairs one's ability to adapt or problem-solve—can amplify hopelessness during challenging situations. Similarly, enduring conditions like depression and anxiety reflect internal emotional instabilities that make individuals more sensitive to life stressors (Taylor et al., 2023). A person suffering from these vulnerabilities may also experience low belongingness or perceive themselves as a burden to others, further internalizing negative self-appraisals that increase susceptibility to suicidal ideation (Oguntayo et al., 2025).

However, these risk factors alone do not automatically lead to maladjustment but the onset of dysfunction often requires the presence of external stressors, such as environmental or relational challenges (Taylor et al., 2023). For instance, academic burnout—marked by chronic exhaustion, detachment, and reduced efficacy—acts as a potent stressor among students, particularly in competitive educational settings (D'Eon & Yasinian, 2021; Madigan et al., 2021). Additionally, familial strain and interpersonal violence impose emotional and psychological burdens, especially when individuals lack safe and nurturing environments (Zhen-Duan et al., 2022). These stressors can serve as the tipping point for those with existing psychological vulnerabilities, accelerating the decline into maladaptive behaviors and thoughts.

Within this interactional model, mediators may play a pivotal role in determining outcomes. According to Abu-Bader and Jones (2012), mediators are mechanisms or variables that explain how or why a particular relationship between a vulnerability and a stressor results in either maladjustment or resilience. Social support, for example, acts as a vital mediator by offering emotional reassurance, a sense of belonging, and tangible help in times of distress. Individuals embedded in supportive social networks are often more capable of coping with stressors, thereby weakening the link between their internal vulnerabilities and negative mental health outcomes (Hayes, 2016). Likewise, resilience, as a psychological mediator, facilitates adaptive responses to adversity. Resilient individuals are better equipped to regulate emotions, reframe challenges, and maintain hope even when confronted with significant life pressures.

From a diathesis-stress perspective, suicide risk and psychological maladjustment are best understood not as the result of isolated variables but as outcomes of dynamic processes. For example, a student who suffers from depression and cognitive rigidity (diatheses) may also endure academic burnout and interpersonal violence (stressors). In the absence of mediators like resilience or social connection, this interaction could lead to suicidal ideation or other forms of maladjustment (Oguntayo et al., 2025). Conversely, the presence of strong mediating factors could alter the course, enabling the individual to cope more effectively and maintain psychological equilibrium.

In summary, the Diathesis-Stress Model, when integrated with the concept of mediators, offers a rich and multidimensional understanding of the development of psychological maladjustment and suicide risk. It highlights the importance of addressing both intrinsic vulnerabilities and external stressors, while also fostering key mediating mechanisms that support mental well-being. Intervention strategies grounded in this model should aim to reduce environmental stressors, address internal vulnerabilities through therapeutic support, and enhance mediators such as resilience and social connectedness to mitigate the risk of suicidality.

Biopsychosocial Model of Psycho-Maladjustment (Risk and Protective) Factors

In the realm of behavioral and health sciences, the Biopsychosocial Model is a well-known theory that is capable of explaining how risk and protective factors determine psychopathology such as suicide. The model stated that the elements that correspond with psychological, biological, and social risks are the determinants of health and disease (Engel, 1977, in Bolton, 2023). In addition, it integrates biological, psychological, and social elements to give a comprehensive description, evaluation, prevention, and treatment of mental well-being and psychological illness (Engel, 1977 in Bolton, 2023). This motivates the development of a multidisciplinary and interdisciplinary approach to health, involving specialists in psychology, psychiatry, public health, social work, psychoneuroimmunology, and neuropsychology, among others to provide a nuanced perspective on how complex interactions among individual vulnerabilities, emotional responses, and environmental stressors contribute to the emergence and maintenance of suicidal ideation and behavior. In this context, psychological maladjustment refers to the

compromised ability to manage internal and external stressors, often manifesting through mental health issues that increase suicide risk (Bolton, 2023).

The biopsychosocial paradigm is a multi-systems approach that considers the influence of biology, psychology, and the social environment to provide a holistic understanding of mental and physical health. It acknowledges that these systems intersect and influence the health and susceptibility of each individual to disease, and that treatment can be made more effective through a greater comprehension of these systems. Physiological factors such as genetics and disease pathology are incorporated into the model (Bolton et al., 2019; Bolton, 2023). Behavior, thoughts, and emotions comprise the psychological component; and socioeconomic elements, social support, and culture comprise the social component (Bolton, 2023).

According to past studies, this model posits that anxiety and depression as risk factors interplay with suicidal ideation, which arises from a combination of biological, psychological, and social factors (Bolton, 2023; Miles, 2020). Firstly, biological vulnerabilities, such as genetic predispositions or neurochemical imbalances, may contribute to mood disorders. Secondly, psychological factors like negative thought patterns and low self-esteem exacerbate anxiety, which leads to distress. Thirdly, social factors like interpersonal conflicts or a lack of social support amplify depressive-related feelings of hopelessness. Prevention involves addressing all three components through an integrated approach, including medication for biological factors, therapy for psychological factors, and social support interventions. By addressing these factors comprehensively, the risk of suicidal ideation can be reduced.

According to Bolton (2023), biological factors constitute the foundational physiological and neurological aspects of mental health. Conditions such as depression and anxiety, which are often linked to imbalances in neurotransmitters like serotonin and dopamine, play a significant role in elevating suicide risk (Ghallab & Elassal, 2024). These disorders may result in persistent feelings of sadness, hopelessness, and emotional dysregulation. Additionally, cognitive rigidity—marked by a stubborn and limited way of thinking—has been linked to problems with executive function, often because of issues in the prefrontal cortex (Ghallab et al., 2024). Individuals exhibiting cognitive rigidity may

struggle to generate alternative solutions to problems, thereby increasing their vulnerability during periods of stress or crisis.

Psychological risk factors encompass internal cognitive and emotional processes shaped by personal experiences and perceptions. A recent study from sub-Saharan Africa found low belongingness and perceived burdensomeness as central to Suicidal ideation risk factors (Oguntayo & Gutierrez, 2025). This means that individuals who feel socially alienated or believe they are a burden to others are more likely to develop suicidal ideation (Kurşuncu, & Baştemur, 2024). Academic burnout, another psychological risk factor, emerges from chronic educational demands, competitive pressure, and lack of support, especially in high-achieving environments (D'Eon & Yasinian, 2021; Madigan & Curran, 2021). This burnout may lead to emotional exhaustion, depersonalization, and a diminished sense of personal accomplishment, further compounding psychological distress, exacerbating suicidal thoughts (Madigan & Curran, 2021). Cognitive rigidity also fits within this risky domain, as it impairs adaptive coping strategies and fuels feelings of helplessness (Chaves, 2021).

Moreover, social risk factors have been found in the broader environmental and relational context that influences an individual's mental well-being, especially suicidal behavior (Rodríguez-Otero et al., 2022). Family stress, particularly exposure to domestic violence, conflict, or neglect, undermines emotional stability and increases susceptibility to trauma. A lack of social support—whether through weak peer relationships, poor student-teacher interaction, or absence of community—intensifies feelings of isolation and hopelessness. Moreover, institutional physical and cultural environments could combine with low academic performance to affect overall well-being, which may exacerbate stress, especially for students who internalize these expectations without sufficient coping resources.

An integrated view, as offered by the biopsychosocial model, emphasizes that no single factor operates in isolation. Rather, psychological maladjustment and suicide risk arise from the convergence of biological vulnerabilities, psychological stressors, and social adversities. For example, a student who suffers from academic burnout (psychological), lives

in a violent household (social), and experiences clinical depression (biological) faces a compounded risk of suicidal ideation. On the other hand, protective factors such as access to mental health care, strong interpersonal connections, and the development of emotional resilience can mitigate these risks across all domains.

In summary, the biopsychosocial model underscores the importance of holistic and interdisciplinary approaches to suicide risk and protective factors leading to its prevention. Effective interventions must simultaneously address neurobiological conditions, promote psychological well-being, and strengthen social support systems. By doing so, stakeholders—including educators, clinicians, families, and policymakers—can collaboratively reduce the incidence of suicide and support individuals in achieving long-term mental health and life satisfaction.

Cognitive Avoidance Theory of Environmental Degradation Worry

Borkovec first proposed this theory in 1994. This theory posits that patients use anxiety as an avoidance tactic to control the physiological trigger or arousal produced by worry (Borkovec et al., 2004; Günther et al., 2023). When asked to consider a present worry, both healthy and psychopathological persons shift the character of their cognitions toward negative linguistic thoughts (Borkovec, 1994, in Rashtbari et al., 2020). Additionally, excellent therapeutic outcomes for GAD patients are associated with a reduction in the ratio of reported words to mental images (Borkovec et al., 2004, in Günther et al., 2023).

In line with the concept of this model, verbal expression of frightening thoughts reduces cardiovascular reactivity, whereas a mental picture of the same content evokes heightened cardiovascular reactions (Borkovec et al., 2004 in Günther et al., 2023). This socio-cognitive theory asserts that concern is a cognitive strategy used to control the physiological arousal resulting from fear. According to this idea, pathological worry, as manifested by Generalized Anxiety Disorder (GAD), is linguistic, negative, and abstract, as opposed to concrete (Zheng et al., 2023).

In sum, the Cognitive Avoidance Theory of environmental worry posits that avoidance of environmental stressors contributes to suicidal ideation (Oguntayo, 2023).

Firstly, individuals experience stressors such as life events or interpersonal conflicts. Secondly, cognitive avoidance strategies, such as distraction or denial, temporarily alleviate distress but fail to address underlying issues. Thirdly, continued avoidance perpetuates rumination and amplifies negative thoughts, increasing the risk of suicidal ideation. Prevention involves cognitive restructuring to confront and cope with stressors directly, along with developing adaptive coping strategies. Oguntayo (2023) stressed that by addressing environmental worries through active engagement, individuals can reduce the likelihood of suicidal ideation.

The Cognitive Avoidance Theory of Environmental Worry posits that individuals use anxiety as a cognitive strategy to avoid and manage physiological arousal caused by stressors. This theory emphasizes that pathological worry, often verbal, negative, and abstract, serves as an avoidance mechanism, particularly evident in individuals with Generalized Anxiety Disorder (GAD). While cognitive avoidance strategies, such as distraction or denial, provide temporary relief, they fail to resolve underlying stressors, perpetuating rumination, and amplifying negative thought patterns. Verbalizing worries may reduce physiological responses, while mental imagery of fears heightens them, highlighting the interplay between cognition and emotional arousal.

In this study, the theory was explained as underscoring the role of cognitive avoidance in escalating distress from climate change, as associated with suicidal ideation. It was assumed that addressing environmental worries through direct engagement and cognitive restructuring could break the cycle of avoidance and reduce the risk of rumination and despair. Also, adaptive coping strategies and therapeutic interventions aimed at confronting stressors actively could be critical to mitigating suicidal ideation and improving the mental well-being of college students.

Socio-ecological Model of Environmental Degradation Worry

The majority of proponents of this theory (Crandon et al., 2022; Dahlberg & Krug, 2002) contend that environmental degradation worry is both an adaptive response to a real hazard and a potential cause of damage. It was hypothesized that youths may be uniquely susceptible to environmental worry while being a vulnerable age group to the effects of

environmental degradation (Oguntayo, 2023). According to Crandon et al. (2022), and Dahlberg & Krug (2002), environmental degradation worry is both an adaptive response to a real hazard and a potential cause of damage to the climate. That is, the experience of environmental anxiety is shaped by a dynamic interplay across multiple ecological systems, which include the microsystem (family, peers), mesosystem (educational institutions, community), exosystem (government policy, media representations), and macrosystem (sociocultural values and political economy). Within this multilayered structure, environmental worry is not solely an individual psychological reaction but a cumulative stress response to social, structural, and ecological conditions, making it a salient predictor of mental distress and, in severe cases, suicidal ideation.

The socio-ecological model offers a robust theoretical lens for understanding how environmental degradation and related anxieties may evolve into more serious mental health concerns, including suicidal ideation among youth. Scholars such as Crandon et al. (2022) and Dahlberg and Krug (2002) argue that environmental worry, particularly among younger populations, is both an adaptive response to real ecological hazards and a potential psychosocial burden. Youth—especially university students—may be uniquely vulnerable, given their transitional life stage, cognitive-emotional development, and growing awareness of global and local ecological crises.

The socioecological model becomes particularly relevant in the context of Northern Mexico, notably in the state of Chihuahua, where recent studies (Acosta-Gutiérrez et al., 2024) have demonstrated that climate changes, environmental-related crises, and social factors intersected with violence and political instability, social fragmentation, and educational precarity to heighten youth vulnerability to suicide. In these settings, the compounded effect of water scarcity, pollution of all types, extreme weather conditions, deforestation, and inadequate institutional responses intensifies environmental despair in Chihuahua as a state (INEGI, 2023; Oguntayo et al., 2024c). Such chronic exposure to ecological insecurity, when coupled with limited psychosocial resources, may lead students to experience hopelessness and existential distress, which are known precursors to suicidal ideation (Oguntayo, 2023).

Latin American sociocultural theories further deepen this understanding. Drawing from the tradition of liberation psychology (Martín-Baró, 1994) and critical community psychology (Montero, 2009), mental health is conceptualized as a social and political construct rather than merely an intrapsychic phenomenon. In this view, ecological degradation is a form of *structural violence* that disproportionately affects marginalized communities, including economically disadvantaged youth in Mexico's northern regions. These students often inherit a collective sense of ecological grief and future insecurity, rooted in historical disinvestment, cultural disconnection from land, and systemic exclusion from decision-making about their environment.

Also, cultural beliefs common in Mexican and Latin American communities—like familismo (the importance of family), machismo/feminismo (ideas about gender roles), and fatalismo (accepting things we can't control)—can influence how people feel psychologically during environmental crises (Lopez et al., 2023). While these cultural values can offer protective buffers (e.g., strong family support), they may also exacerbate distress when environmental breakdown disrupts traditional roles or social cohesion.

Therefore, within this theory, suicidal ideation among college students in Northern Mexico is not interpreted as an isolated mental health condition, but rather as a systemic outcome of interrelated ecological, social, political, and cultural stressors. This model emphasized the need for various types of solutions, such as changes in institutions, mental health services that consider cultural differences, education about the environment, and efforts to strengthen communities, to reduce the negative impact of environmental damage on students' mental health to reduce suicidal thoughts in college students. As such, adapting the socio-ecological model has come to unravel Latin American realities, which have provided a culturally grounded and multidimensional approach to understanding environmental crisis worry and other social factors in addressing suicidal ideation linked to environmental stress.

Salutogenic Model of Resilience

The Salutogenic Model of resilience was first articulated by Antonovsky in 1979 (Quinlan et al., 2024). The model presented in this study incorporates a comprehensive range

of biological, psychological, sociological, anthropological, and measuring aspects that contribute to resilience explanation (Quinlan et al., 2024). The theory recognized that buffering resources possess characteristics of ecosystems rather than solely individual attributes, necessitating a systems study. The concept posits that an individual's life orientation and sense of coherence are shaped by experiences throughout their life, with particular emphasis on the formative years. The "sense of coherence" refers to a subjective perspective that influences how one perceives life as more or less comprehensible, controllable, and purposeful.

The presence of strong coherence enables individuals to effectively allocate and utilize resources to effectively manage and cope with the ubiquitous challenges and pressures encountered in their everyday lives. The concept of "generalized resistance resources" encompasses attributes or qualities possessed by individuals, groups, or communities that enhance their capacity to effectively cope with stressors and foster cohesion (Idan et al., 2017). Generalized resistance resources encompass a range of elements that individuals can utilize to effectively navigate and respond to stressful circumstances. These resources include but are not limited to knowledge, skills, coping strategies, materials, social relationships and support, cultural stability, and genetic and constitutional factors. By employing these resources, individuals can adapt to challenging situations, transforming them into opportunities for personal growth and development through the acquisition of social and cognitive skills.

The interdependence between a sense of coherence and pervasive resistance is mutually beneficial since each factor has the potential to either enhance or diminish the other. According to Oguntayo et al. (2024a), resilience is the process through which individuals organize their resources to effectively address and cope with substantial stresses. This involves judging the stressors as inconsequential, taking steps to avoid them, or actively managing them through stress management techniques. The enhancement of tension management effectiveness contributes to the establishment of a coherent state and enables individuals to sustain a position along the continuum of ease and dis-ease, encompassing domains such as health, social functioning, and overall well-being. The concept of "ease/not disease continua" suggests a continuum of functioning that ranges from optimal health to

compromised health, as opposed to the binary medical diagnostic category of "ill-not-ill." When the cognitive resources and processes operate suitably, resilience is robust.

The Salutogenic Model of Resilience views suicidal ideation as a result of a lack of resources for managing stressors. Firstly, individuals face stressors that exceed their coping abilities, leading to distress. Secondly, resilience factors such as social support, coping skills, and a sense of coherence buffer against the impact of stressors. Thirdly, when these resources are insufficient, suicidal ideation may emerge as a response to perceived helplessness. Prevention involves strengthening resilience through interventions that enhance coping strategies, and social support networks, and fostering a sense of coherence, thereby reducing the likelihood of suicidal ideation (Oguntayo et al., 2024a; Quinlan et al., 2024).

This model integrates biological, psychological, sociological, and anthropological aspects, recognizing that resilience is influenced by both individual attributes and broader ecosystem-like resources. A key concept is the "sense of coherence," which refers to how comprehensible, controllable, and purposeful one perceives life. Strong coherence helps individuals mobilize resources to manage life’s challenges effectively. These resources, termed "generalized resistance resources," include skills, knowledge, social support, and coping strategies, which enable individuals to transform stressors into opportunities for growth.

In the context of suicidal ideation, the model explains that when individuals lack sufficient resources to manage stress, they may experience distress leading to suicidal thoughts. The interplay of resilience factors, such as social support and coping skills, serves as a protective buffer. When these resources are insufficient, feelings of helplessness may contribute to the emergence of suicidal ideation. It was hypothesized that in this study suicide prevention could involve strengthening resilience through interventions that enhance coping mechanisms, social support, and a strong sense of coherence, reducing the likelihood of suicidal ideation.

Seligman's 3-P's Model of Resilience

Seligman (2005) proposed this model from the perspective of the positive school of thought, arguing that the three factors (personalization, pervasiveness, and permanence) have a unique effect on an individual's resilience tendency and its explanation. Personalization is the understanding that we are not liable for every occurrence. In other words, an individual may fault himself for unanticipated events, but he or she can recover if he or she challenges his beliefs to gain a more accurate perspective of what transpired. Pervasiveness is the belief that the event will have all-encompassing effects on oneself; that is, one may believe that the event will negatively affect every aspect of a person's existence. A person's efforts to recover will be hindered, and he or she will continue to suffer psychologically if the event's severity is exaggerated, and vice versa. Permanence refers to how long people believe life's events will continue to cause them pain; if one works compassionately and logically against the factors that cause the pain to persist, the agony will cease, and vice versa.

According to Seligman (2005), individuals must recognize the ephemeral quality of their feelings and experiences while simultaneously accepting and appreciating them. The ability to persevere and achieve favorable advancements on this trajectory is indicative of a state of well-being, namely, the state of being alive, because pressures inherent to human life are inescapable facets of existence. Resilience can be cultivated by individuals through the process of self-recovery, where they acknowledge and address their emotional distress and then motivate themselves to persevere and confront challenges anew.

The aforementioned talents are crucial in determining the overall performance of an individual in social, psychological, and physical domains. Seligman (2005) posits a positive association between psychological well-being and resilience. Kaluza (2022) posits that individuals who cultivate fundamental skills and employ the three pillars of resilience in their everyday activities enhance their capacity to counteract aberrant conduct and psychological anguish, thereby serving as a crucial pathway to restoration. When an individual employs positive resources, strengths, and other positive psychological capital capacities, such as hope, optimism, and self-efficacy, as well as autonomy, environmental mastery, personal growth, positive relationships with others, a sense of purpose in life, and self-acceptance,

they can develop a protective barrier against psychological distress (Palma-Gómez et al., 2020; Seligman, 2005).

Seligman's 3-P's Model of Resilience highlights three factors influencing suicidal ideation. Firstly, pervasive thoughts of hopelessness and helplessness contribute to suicidal ideation. Secondly, personalization, where individuals attribute negative events to personal flaws, increases vulnerability. Thirdly, permanence—the belief that distressing circumstances will endure indefinitely—increases suicidal ideation. Prevention involves challenging cognitive distortions through cognitive-behavioral interventions, fostering adaptive attributional styles, and promoting the belief in the temporary nature of distress. According to a recent study among college students, by addressing these factors, individuals have been able to cultivate resilience and reduce the risk of suicidal ideation (Oguntayo et al., 2024a).

Seligman’s 3-P’s Model of Resilience emphasized the roles of personalization, pervasiveness, and permanence in shaping resilience and mitigating psychological distress. Personalization involves recognizing that individuals are not entirely responsible for adverse events, enabling them to challenge self-blame and gain a balanced perspective. Pervasiveness refers to avoiding the belief that negative events will affect all areas of life, while permanence involves understanding that distress is not everlasting. By fostering these perspectives, individuals can cultivate resilience through self-recovery, addressing emotional distress, and embracing positive psychological capacities such as hope, optimism, and self-efficacy.

In the context of suicidal ideation, this model identifies pervasive hopelessness, excessive personalization of failures, and the belief in the permanence of distress as key risk factors. In this present study, it was assumed that interventions focusing on challenging these cognitive distortions through cognitive-behavioral strategies can promote adaptive attributional styles and resilience.

Summary of the Theoretical Models

By integrating and synthesizing the theories utilized in this research, significant insights can be gained regarding the complex factors that contribute to suicidal ideation and

behavior in the field of health psychology. The theoretical concept and framework of this study are visually depicted in Figure 7, providing a comprehensive understanding of the complex network of elements that impact suicidal ideation. Suicidal behavior is better understood through the lenses of the Three-Step Theory (3ST) developed by Klonsky and May and the Interpersonal Psychological Theory (IPT) developed by Joiner. The IPT emphasizes perceived burdensomeness and a lack of belongingness, while the 3ST distinguishes between suicidal impulses and actions. According to the IPT, suicidal ideation arises from individuals perceiving themselves as burdensome and aspiring to be accepted, whereas the 3ST delineates three consecutive stages that culminate in suicidal desire: the accumulation of psychological anguish, the progression of despondency, and the convergence of these elements. These theories emphasize the role of interpersonal and psychosocial elements in the development of suicidal ideation.

Cullen's theory places significant emphasis on the criticality of social support in averting suicidal ideation. Similarly, Kort-Butler's theory integrates the micro and macro levels of social support, underscoring the pivotal role that social connections play in mitigating distress and cultivating resilience. The cognitive flexibility theory explains Cognitive rigidity as well. This theory emphasizes the adaptive restructuring of knowledge as a means to mitigate the contribution of rigid thought patterns to suicidal ideation. Cognitive rigidity, according to Hayes' Acceptance and Commitment Theory (ACT), is a valuable ability that fosters psychological strengths, including adaptability, utilizing acceptance, awareness of the present moment, and committed action. These theories emphasize the significance of cognitive resources in preventing suicidal ideation through mitigation.

The catalysts for the psycho-maladjustment factors examined in this research, specifically anxiety and depression, were elucidated through the application of the Diathesis-Stress Model. This model investigated the interaction between nature and nurture to provide insight into these pathologies. Anxiety or depression induced in the presence of distress by environmental stressors, genetic factors, or both was the hypothesis. Furthermore, the Biopsychosocial Model provides a holistic framework for understanding the buffers and triggers of suicidal ideation by integrating biological, psychological, and social factors to

explain psychological maladjustment. This demonstrates that the interaction of biological, social, and psychological factors is the cause of these psychological disorders.

Moreover, the cognitive avoidance theory was utilized to explain the psychological mechanisms underlying worry about environmental degradation, suggesting that suicidal ideation may be significantly exacerbated by the emotional distress or the perceived inability to effectively avoid persistent environmental stressors. This inability triggers a cycle of negative affect, maladaptive coping strategies, and intrusive thoughts. Furthermore, drawing upon the social-ecological model, environmental degradation is conceptualized not merely as an isolated phenomenon but as the result of complex, dynamic interactions among individual behaviors, social norms, interpersonal relationships, and broader environmental factors.

The cumulative effect of unmet wellness needs arising from these interconnected systems contributes to heightened vulnerability to suicidal ideation. This underscores the urgent necessity of fostering psychological resilience and equipping individuals with adaptive skills to confront and mitigate these multidimensional stressors. The Salutogenic model of resilience posits that suicidal ideation could be diminished through the development and reinforcement of high resilience skills. This model emphasized the importance of generalized resistance resources—such as effective coping mechanisms, robust social support systems, and adaptive problem-solving abilities—and a strong sense of coherence, all of which fostered adversity intelligence skills crucial for managing stressors.

Similarly, Seligman's 3-P Model highlighted the detrimental effects of cognitive distortions on mental health, psychological well-being, and resilience. According to this model, resilience skills increased, and overall well-being was promoted when optimism, positive attributional styles, and an adaptive perspective on life’s circumstances predominated, thereby mitigating the risk and intensity of suicidal ideation.

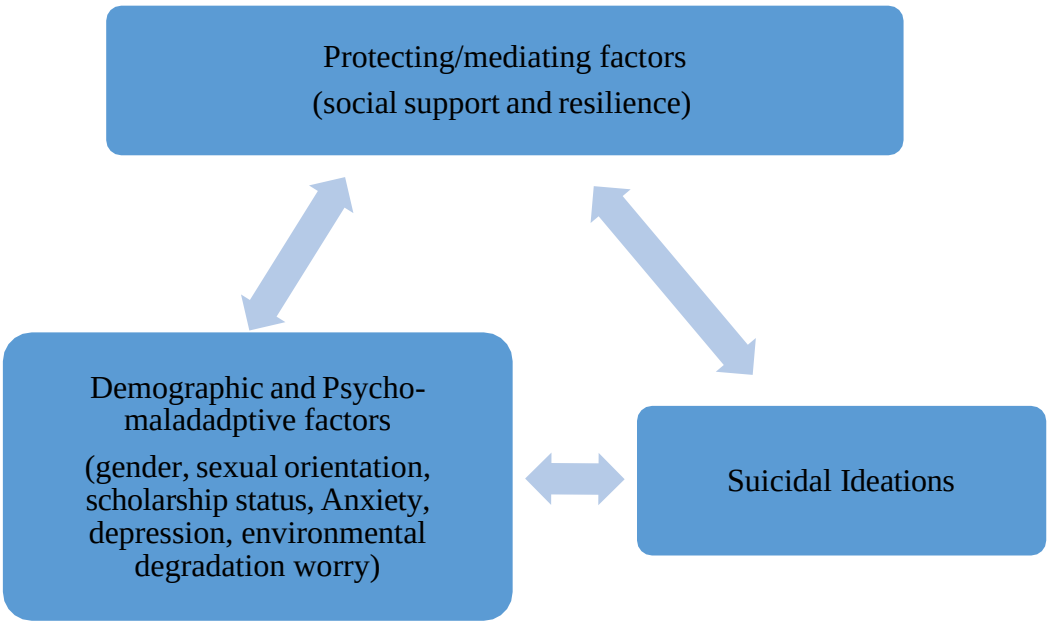
In all, the integration of these theoretical perspectives fostered a comprehensive and multidimensional understanding of suicidal ideation and its underlying psychosocial, cognitive, and emotional factors. This enriched conceptual framework enabled the development of targeted interventions designed to prevent, reduce, and manage suicidal

ideation while promoting psychological health and resilience among individuals experiencing adversity. Although health psychology incorporated these theories into empirical and statistical models to explain and prevent psychopathology, achieving a complete understanding of suicide necessitated an interdisciplinary approach.

This approach required the collaboration of professionals across diverse scientific fields and the adoption of a multidimensional perspective. By incorporating intrinsic technoscientific innovations and interdisciplinary frameworks, health psychology demonstrated the potential to enhance its capacity to prevent, control, and manage complex psychopathologies such as suicide.

Figure 7.

Showing the Conceptual Model of this Study



Note. A descriptive figure illustrates the conceptual model that the researcher developed for this study in 2024.

Chapter II: Methodology

Health psychology is a field that relies on empirical methods to investigate and understand various aspects of human health. Researchers in this discipline employ the scientific method, which is a systematic strategy for collecting, organizing, and disseminating data in a manner that ensures reliability and validity in representing their research themes. In brief, scholars in the domain of health psychology frequently identify a particular concern, challenge, or framework, establish a meticulous operational definition, utilize diverse methods of data collection, encompassing experimental, correlational, and non-experimental approaches, investigate phenomena, employ statistical techniques to analyze the collected data, and ultimately develop, revise, or offer critical analysis of an established theory.

Health psychology practitioners employ various empirical research methods to examine and elucidate potential associations between two phenomena, comprehend the underlying causes of concurrent illnesses, and evaluate the efficacy of nonpharmaceutical interventions, specifically psychological interventions that concentrate on the management and prevention of pathological conditions. In the context of this study, the primary objective is to investigate risk factors, predictive factors, and variables mediating the relationship between suicide behaviors and determining factors among university students, with the ultimate aim of preventing its occurrence to a minimal level. To arrive at a scientific procedure and conclusion, researchers utilize a variety of methodologies, including observational techniques, surveys, experiments, longitudinal studies, and a mix of these approaches. The current study employed a non-experimental research design that integrated both quantitative and qualitative procedures. The study utilized mixed methods to achieve its objectives and goals.

Contextualization of Research Application

In contextualizing the focus of this study, it aimed to offer comprehensive insights into the multifaceted interplay of various risk factors, stressors, and protective elements affecting the mental health of students within and beyond UACJ. The focus lies in shedding

light on the complex array of influences that may impact university policies and mental health support services, aiming to mitigate suicidal behavior among students. Suicidal ideation emerges from a multitude of stressors, including academic pressure, social challenges, financial burdens, anxiety, depression, and eco-anxiety triggered by extreme weather conditions, leading to diminished cognitive flexibility and resilience. Moreover, the transition to adulthood within a demanding academic setting could exacerbate these stressors, potentially impacting students' mental well-being and fostering suicidal ideation. The outcomes of this study are poised to inform the design of an intervention-centered suicide prevention program tailored to the specific needs of UACJ students. These findings, incorporating environmental, demographic, social, and psychological insights garnered during the data collection, could significantly enhance the implementation of targeted support systems and preventative measures, fostering a safer, more supportive university environment conducive to students' overall well-being and mental health.

Paradigm, approach, and design

When planning a research project, researchers are faced with the decision of selecting among many methodological approaches, including qualitative, quantitative, and mixed methods. The technique employed in this study is based on the integration of a comprehensive worldview or set of research assumptions (paradigm), a research approach, and a design customized to meet the specific needs of this particular project. The selection of a technique is influenced by various factors, including the research topic or issue being examined, the researcher's personal experiences, and the intended audience for whom the researcher is composing the work (Phillips & Burbules, 2000; PAHO/WHO, 2004).

A research paradigm encompasses a methodical technique, theoretical framework, or conceptual model utilized in the conduct of research. It is referred to as a collection or compilation of thoughts, convictions, or comprehensions that facilitate the operation of theories and procedures (PAHO/WHO, 2004). The predominant paradigms in research methods are derived from positivism and interpretivism (PAHO/WHO, 2004; Phillips et al., 2000). Research projects frequently utilize one or many research paradigms as a conceptual framework to establish research methodologies and execute the project in a manner that

aligns with legal and ethical guidelines. The present study utilized a combination of positivist and interpretivist paradigms to examine and elucidate the determinants of suicidal ideation (quantitative phase) and to gain insights into and enhance the factors contributing to a preventive intervention for suicidal ideation among university students within the specified context (qualitative phase).

The positivist research paradigm emphasizes the investigation of social problems through quantitative methods (PAHO/WHO, 2004; Phillips et al., 2000). It is predicated on the notion that social phenomena can be examined using natural science methodologies and that objective investigation of social reality is possible (Park et al., 2020; Patton, 2002). To ascertain causal relationships between variables and evaluate hypotheses, positivist paradigms utilize quantitative methodologies, including statistical analysis and surveys (Park et al., 2020). Positivism is regarded as a valuable paradigm in social and behavioral research, particularly when employing the quantitative approach of investigation, which is too procedural. Positivism holds that there is an objective reality that exists independently of the observer and that, with the correct methodology and research design, that reality may be accurately captured (Park et al., 2020; Patton, 2002). According to Patton (2002), most contemporary social scientists who adhere to the scientific method are post-positivists who are willing to admit and deal with imperfections in a phenomenologically messy and methodologically imperfect world while still believing that objectivity is worth striving for. Given the limitations of positivism's rigidity or overemphasis on logicality in the social sciences, the researcher chose to mix positivist and interpretivist paradigms.

According to Walsham (1995), interpretive paradigm research methods begin with the assumption that human knowledge of reality, including the domain of behavioral activity, is a social creation by human actors and that this holds for researchers as well. In contrast to positivist science's assumptions, there is no objective reality that can be discovered and repeated by researchers. As a result, an interpretive perspective is founded on the premise that qualitative research efforts should be focused on uncovering many realities rather than searching for a single objective truth. According to Denzin and Lincoln's (2017) research, objective reality will never be precisely recorded. Any interpretive study seeks in-depth understanding, the utilization of various validities rather than a single validity, and a

commitment to discourse (Denzin et al., 2017). The interpretive research paradigm operates on the concept that, to alter social reality, it is most beneficial for a researcher to understand the participants' unique interpretations of human experiences and social situations. Interpretive research does not distinguish between the subject and the object of examination and acknowledges that the researcher's values are inherent in the research technique (Denzin et al., 2017; Smith et al., 1999; Walsham, 1995). The current study aims to develop knowledge of and importance of suicidal thoughts among students through dialogue and profound comprehension; thus, the interpretivism paradigm is frequently used.

In this research, the approach adopted was a combination of quantitative and hermeneutic approaches; the quantitative approach is a research methodology characterized by the acquisition of numerical data and its subsequent analysis through the application of statistical, computational, or mathematical techniques. Predictions, pattern recognition, and hypothesis testing are common applications of this method (PAHO/WHO, 2013). Quantitative research is the methodical collection and analysis of numerical data to thoroughly describe, explain, predict, or manipulate intriguing phenomena. The examination of quantitative data necessitates a combination of complexity and systematic arrangement. Deductive reasoning is employed in quantitative research (PAHO/WHO, 2004; Phillips et al., 2000). Conversely, hermeneutics is a qualitative research approach that emphasizes comprehending the significance and interpretation of human perspectives and experiences (PAHO/WHO, 2013). Thus, the qualitative approach could be considered an alternative nomenclature for the quantitative method instead of the hermeneutical approach. This methodology entails the gathering and examination of non-numerical data, including words, images, or observations, to discern themes, patterns, and meanings.

The hermeneutic approach is referred to as the systematic and methodical process employed by a researcher to collect, analyze, and interpret data. Three distinct research methodologies can be employed in academic studies, namely quantitative, qualitative, and mixed methods. Qualitative research encompasses the systematic gathering, examination, and interpretation of extensive narrative and visual data to obtain a deeper understanding of a certain subject matter under investigation, as indicated by many scholarly investigations. Qualitative research involves the comprehensive investigation of multiple dimensions of a

phenomenon, to examine things in their inherent state. This methodology utilized the process of inductive reasoning. Mixed-methods research is a research methodology that includes both quantitative and qualitative data, integrating them inside a single study (PAHO/WHO, 2004; Phillips et al., 2000).

The methods used in this research enabled the researcher to effectively utilize the interconnectedness and robustness of quantitative and qualitative research methodologies. This facilitates a more comprehensive understanding of the subject under examination. The approach employed in this study will involve the utilization of both quantitative and qualitative research methodologies. The results obtained will be contingent upon the deductive and inductive analysis of the viewpoints provided by the selected respondents. The aforementioned data will be employed to characterize and elucidate the occurrence of suicidal ideation among university administrators, policymakers, mental health professionals, and the broader university community beyond the immediate vicinity. To conduct this study on the positivist and interpretative paradigms, data collection will involve the utilization of questionnaires and interviews.

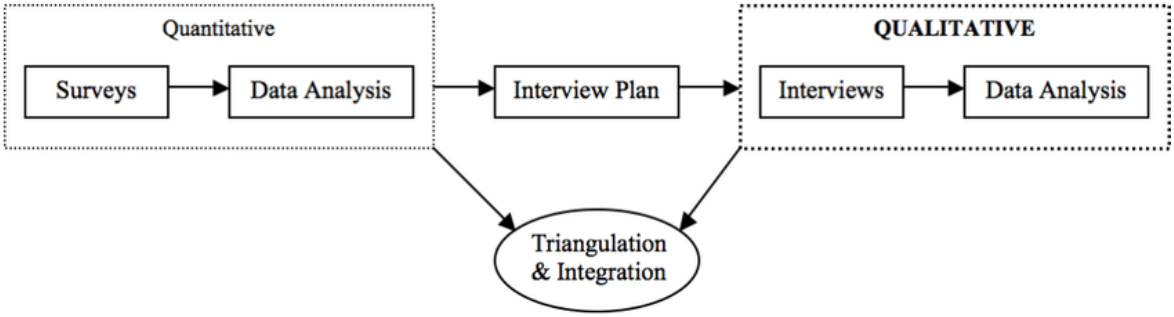
In the temporality of this study, a blend of transversal methods of collecting data from different groups of people at the same point in time will be used. In mixed-methods research like this, the transversal method of data collection can be used to gather both quantitative and qualitative data from different groups of students across disciplines, ages, cultures, and experiences at the same point in time (Creswell & Creswell, 2017; Takona, 2024). This will help the researcher gain a more complete picture of the research question by integrating its benefits, such as measuring the prevalence of suicidal behavior phenomena among the population of interest at one point in time, from both phases.

The current study employed an explanatory-sequential method in its design. The sequential explanatory design entails the systematic gathering of data on two separate occasions, with each data collection occurring consecutively within a specific time frame. Consequently, the study was initiated by the researcher through the collection and analysis of quantitative data. Subsequently, the study progressed to the collection of qualitative data, which was then compared and analyzed alongside the quantitative findings obtained in the

initial phase (PAHO/WHO, 2004; Phillips et al., 2000). The present study employed an explanatory sequential design. The first stage of the research process entails obtaining quantitative data, and analyzing and interpreting it, which is then informed by the collection of qualitative data to explain and complement the quantitative data. Figure 8 shows the pictorial nature of sequential explanatory mixed method design.

Figure 8.

Showing the study design.



Note. Adapted for use from Creswell, J. W., & Plano Clark, V. L. (2017b). Designing and conducting mixed methods research (3rd ed.). SAGE Publications.

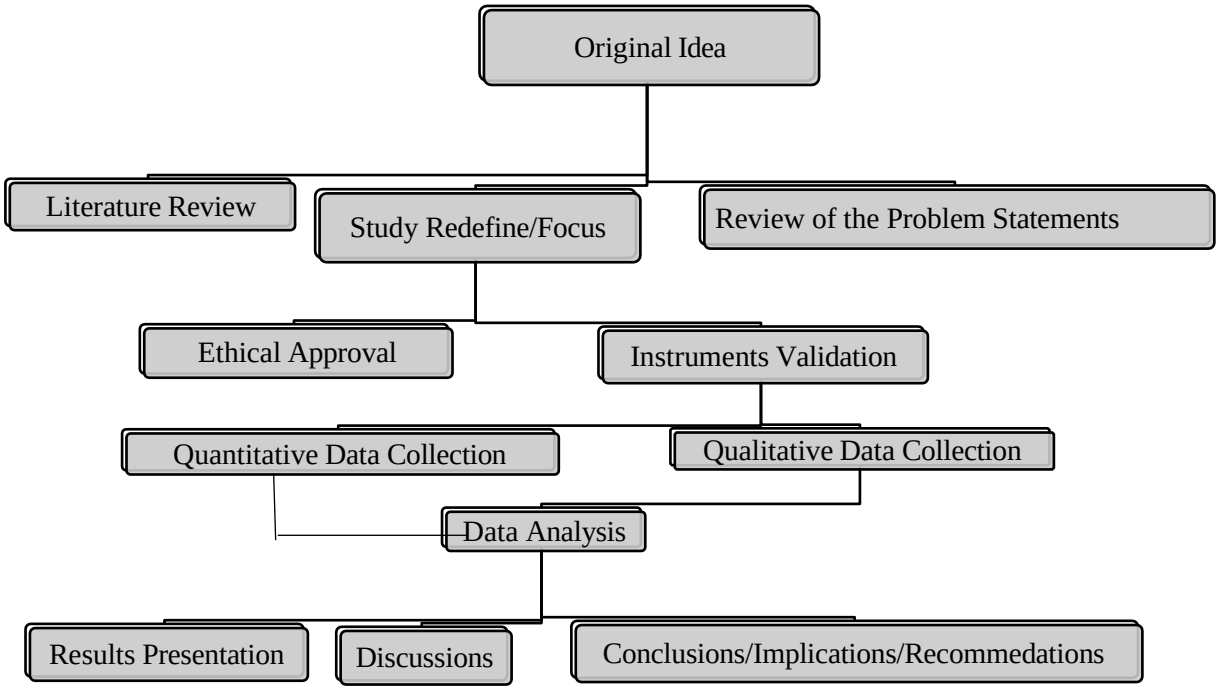
The study began by collecting and analyzing quantitative data. In the succeeding phase of the study, qualitative data was collected and afterward combined with the quantitative data acquired in the prior phase. The utilization of a mixed study design is considered appropriate for this investigation, as it aligns with the primary aim of identifying the factors that contribute to suicidal ideation. Furthermore, this approach allows for the expansion and validation of the initial findings, ultimately leading to the development of a prevention-focused intervention program. The present chapter is structured into two distinct sections, specifically the quantitative section and the qualitative component. The use of both quantitative and qualitative research methods was deemed necessary to fulfill the objectives of this study. The visual representation of the thesis is depicted in Figure 9.

In summary, the selected paradigm, approach, and study eclectic design will enable the examination of participants' viewpoints, the assessment of pertinent data, and the building

of connections with respondents. This methodology will facilitate the evaluation of the prevalence rate of suicidal ideation, thereby augmenting comprehension of participants' viewpoints and psychosocial requirements to avert suicide behaviors. The primary objective is to have a comprehensive understanding of various approaches aimed at moderating or avoiding suicidal thoughts within a specific subset of the chosen academic institution.

Figure 9.

Visual map of the thesis



Note. The researcher in this study developed a visual map of the thesis in 2024, as illustrated in this descriptive figure.

Design

This phase used a cross-sectional survey utilizing ex post facto design to assess the demographic (age range, gender, type of degree programs, scholarship status, sexual orientation, and relationship status) and psychological maladjustment factors (Cognitive rigidity, social support, resilience, anxiety, depression, environmental worry, and relationship difficulty) on suicidal ideation among students in the selected campuses of the *Universidad Autónoma de Ciudad Juárez* (UACJ). The researcher will administer research instruments for the collection of data for all variables in the study.

Setting

The study area of this research was at the UACJ in *Ciudad Juárez*, Mexico. This particular institution is situated near the United States, earning it the designation of the border city university of Juarez. The UACJ, established in 1973, serves as the principal educational establishment in *Ciudad Juárez*, Mexico. The university offers 57 programs in architecture, design, and art; biomedical sciences; social and administrative sciences; engineering; and technology. The Institute of Social Sciences and Administration (ICSA) is one of the four institutes that make up the UACJ. ICSA is comprised of the Departments of Administrative Sciences, Legal Sciences, Social Sciences, and Humanities. The four departments offer sixteen undergraduate degrees and eighteen graduate degrees (UACJ, 2022).

The ICB is another campus of UACJ that offers a variety of undergraduate and postgraduate courses such as Physical Therapy and Rehabilitation, Nursing, Sports Training, Medicine and Surgery, Nutrition, Gerontology, Animal Science, Chemical-Biological Sciences, and so on. The importance placed on these courses in the necessity of connecting with communities during their training and the rigors of stress the students go through, as well as the unresolved argument in the literature that one of these institutes is more prone to stress than the other, which could trigger mental health (Garg et al., 2019, Mirza et al, 2021), led to the selection of these two campuses.

Study population

This study population is composed of university students from UACJ. All students from the seven institutes were conveniently involved in this study. When this study began in 2022, these two university institutes had over 18,001 students enrolled, with 44% being male and 56% being female (UACJ, 2022).

Sample size

The sample size was calculated using the Cochran (1963) formula, which is often used to estimate the optimal sample size for a given population. When this study began in 2022, the student population of this university was over 18,001, made up of postgraduate and undergraduate students (UACJ, 2022). The sample size was calculated using the Cochran (1963) formula, which is often used to estimate the optimal sample size for a given population.

To determine the sample size for a study with a finite population, we can use the formula; $n= N\times Z^2\times p\times(1-p) \div (N-1) \times E2+Z2\times p\times(1-p)$. Where 'n' is the sample size, 'N' represents the population size, 'Z' is the Z-score corresponding to the desired confidence level (e.g., 1.96 for a 95% confidence level), 'p' is the estimated proportion of the population with a particular characteristic (if available), and 'E' is the margin of error.

Given the following parameters: Population size (N) = 18,001, Confidence level = 95% (corresponding to a Z-score of approximately 1.96), and Margin of error (E) = 5% (0.05). The estimated proportion of the population with a particular characteristic (p) = 0.5 (since we don't have a specific estimated proportion for the population, we can use 0.5 as it provides the maximum sample size without any prior knowledge of the population proportion). Substituting these values into the formula thus; $n= (18{,}001-1) \times 0.052 + 1.962 \times 0.5 \times (1-0.5) \div 18{,}001 \times 1.962 \times 0.5 \times (1-0.5)$; n=385. Therefore, the calculated sample size for this study among the population of 18,001 people with a 95% confidence level and a margin of error of 5% was approximately 385 sample size.

Sampling techniques

This study adopted a snowball sampling technique. This is due to the language barrier faced by the researcher, who is not a Spanish speaker, so using conventional physical data distribution and collection methods was unfeasible. However, to navigate this challenge, an online, structured questionnaire was drafted using Google Forms that has a consent form embedded within. The researcher, along with two research assistants, initiated the dissemination of the questionnaire's URL link among student colleagues within their network. Additionally, participants were encouraged to share it with their contacts through email, WhatsApp, and various social media channels. This initial group of respondents was prompted to further distribute the survey within their circles, extending the reach of participation and expanding the participant pool until data saturation was achieved.

Participants

The quantitative study sampled 385 participants with a mean age of 27.45 years (SD = 8.146). The sex distribution included 231 male participants (60%) and 154 female participants (40%). Regarding sexual orientation, 95 participants (24.7%) identified as homosexual, while 290 participants (75.3%) identified as heterosexual. The age distribution showed that 331 participants (86.0%) were between 18 and 34 years old, while 54 participants (14.0%) were 35 years or older.

In terms of marital status, 174 participants (45.2%) were single, and 211 participants (54.8%) were married. Concerning academic programs, 233 participants (60.5%) were enrolled in undergraduate programs, while 152 participants (39.5%) were in postgraduate programs. The participants' levels of study varied, with 96 participants (24.9%) in their freshman year, 172 participants (44.7%) in the middle of their programs, and 117 participants (30.4%) in their final years.

Participants' performance status was reported as follows: 17 participants (4.4%) had grades between 5.00 and 6.99, 139 participants (36.1%) had grades between 7.00 and 7.99 (above average), 193 participants (50.1%) had grades between 8.00 and 8.99 (good), and 36 participants (9.4%) had grades of 9.00 or above (excellent). Finally, 205 participants (53.2%) were not on scholarship, while 180 participants (46.8%) received scholarship support (See Table 2 for details).

Inclusion-exclusion criteria

Inclusion criteria: The following are the inclusion criteria for this study: participants were registered UACJ students. They were individuals who were ready to sign the informed consent form, were psychologically stable, and were 18 years of age and above. They were male, female, undergraduate, and postgraduate students, as well as foreign and indigenous students.

Exclusion criteria: The study excluded individual students who failed to meet the predetermined inclusion criteria in the first phase of this study, such as students not affiliated with the UACJ, students who are unable to communicate in Spanish or English, students who were not mentally fit, and those who did not sign the informed consent form were excluded in this study.

Procedures

In this study, two research assistants were recruited. These research assistants were students from the departments of psychology. Participants were informed about the research topic, and those who volunteered to participate were encouraged to sign the informed consent form before being involved in the research. The online Google survey was structured and then shared with the researcher's colleagues, contacts, and research assistants to fill out and share with all eligible registered students in UACJ who volunteered to participate and share it with other colleagues. This continued until data saturation was achieved, and the collected data was then analyzed.

Operational Definition of Terms

- **Suicidal Ideations (SI):** The SI are thoughts about harming oneself, which could lead a person to make a deliberate or well-planned decision to end his or her own life because of what he or she thinks are stressful situations that are out of his or her control while thinking that killing oneself is a way to get away from the pain (APA, 2022; CDC, 2018; Harmer et al., 2023). Individuals who score 1 above the standard

deviation (SD) of the Plutchik Suicidal Risk Scale are operationally defined as being suicidal in this study.

Taking into account previous reviews, theoretical frameworks, and the main focus of this research study, this study gives a full description of suicidal ideation. Suicidal ideation is defined as a range of cognitive processes that include thoughts, ideas, or persistent thoughts about the possibility of ending one's own life. These cognitive processes can range from a general belief that one's pains would be relieved or life would be better if one died to the development of complex plans for ending one's life.

- **Social supports:** Social support refers to the provision of emotional and material resources by a social network or a supportive member within that network, to assist individuals in effectively managing and adapting to stressful situations (Cullen et al., 19994; Kort-Butler, 2017, Dalgard et al., 2006; American Psychological Association Dictionary, 2018). Individual participants who score 1 above the SD of the Oslo Social Support Scale are operationally defined as having high social support in this study.

  Social support refers to the transmission of various resources, including human, cultural, material, and social capital. This support can be provided informally or formally by individuals or entities, regardless of their official status. Examples of such entities include individuals (such as students providing support to their lecturers or classmates), as well as larger social units like families, communities, states, government assistance programs, or the justice system.

- **Environmental Degradation Worry:** This refers to frightening thoughts and emotions of anxiety that are mostly based on current and expected future circumstances, as well as the immediate and long-term repercussions of environmental degradation or human-caused climate change on oneself in the environment (Borkovec et al., 2004; Crandon et al., 2022; Oguntayo et al., 2022). Individual participants who score 1 above the SD of the Environmental Worry Index are operationally defined as having high environmental worry in this study.

Considering the reviews, theoretical understandings, as well as the main theme of this study's research. This study characterizes environmental concern as the apprehension or fear related to potential environmental harm or ecological catastrophe, which encompasses individuals' awareness and understanding of environmental issues as well as their exposure to or firsthand experience of the adverse effects of the climate crisis. Such knowledge and experiences might contribute to the development of anxiety or unease around the known or anticipated impacts of environmental challenges. The prevailing feeling of worry may stem primarily from the present and anticipated future conditions of the environment, namely as a result of anthropogenic climate change.

- **Resilience:** This is the process of adjusting to challenging life events, especially through cognitive, and behavioral means of adaptability to such external and internal forces (APA, 2022; Smith et al., 2008; Steve et al., 2014; Seligman, 2005). Individual participants who score 1 above the SD of the Brief Resilience Scale are operationally defined as having high resilience in this study.

Based on the analysis of reviews, theoretical understandings, and the main theme of this study's research, resilience can be defined as a conscious effort or ability to move forward in a constructive, perceptive, and cohesive way; having the cognitive skills to effectively draw out important lessons from events when faced with challenges, respond to possible threats, and use both social and psychological resources to maintain one's overall well-being.

- **Cognitive rigidity:** This means the incapacity or difficulty of an individual to alter their thought or behavior when it is ineffective or inappropriate; it is the inability to be aware of one's thoughts, feelings, and ideas and embrace them, even the bad ones, while behaving in an unconstructive manner (Bond et al., 2011; Chaves, 2021; Cohen, 2017; Hülsheger et al., 2013). Individual participants who score 1 above the SD of the Acceptance and Action Questionnaire–II are operationally defined as having cognitive rigidity in this study.

This study provides a comprehensive description of suicidal ideation, taking into consideration previous reviews, theoretical frameworks, and the study's primary focus. Cognitive rigidity is the incapacity to be in contact with the present and act on long-term goals rather than short-term feelings to be able to flexibly adapt to changes in the environment and react in new, creative, and healthy ways that align with an individual's goals and values by staying in the present moment and being open to experiencing whatever thoughts or feelings may arise, and then taking action that is aligned with his or her values, cognitively, emotionally, and behaviorally.

- **Psychological Maladjustment Factors:** This is the inability to maintain functional relationships, operate successfully in numerous life domains, or deal with obstacles and stresses (APA, 2022; Palomar-Lever & Victorio-Estrada, 2016). These factors in this study focus involved emotional instability like anxiety, depression, environmental worry, and cognitive rigidity. In this study, severe psychological maladjustment is operationally defined as participants scoring 1 above the standard deviation on the GAD-2, PHQ-2, EWI, and AAQ-II.

Based on previous reviews, evaluations, theoretical frameworks, and the main goal of the study, psychological maladjustment variables include the inability to keep working relationships with other people, achieve success in many areas of life, and deal with problems and stressors in a healthy way (for instance, anxiety, depression, and rigidity thinking). The phenomenon under consideration encompasses both intrinsic and extrinsic factors. Intrinsic factors pertain to the incongruity between an individual's needs, motivations, and evaluations and the actual rewards derived from their experiences. On the other hand, extrinsic factors manifest when an individual's behavior fails to align with the cultural or social norms and expectations of society. These factors arise due to a deficiency in problem-solving abilities and a perceived incapacity to address the negative experiences encountered by the individual.

- **Sociodemographic Factors**: These are variables that characterize a population or group of individuals (Abell et al., 2012; American’s Essential Hospital, n.d). Age,

gender, type of degree program, scholarship status, sexual orientation, and relationship status are among the variables examined in this study.

Based on previous reviews, theoretical frameworks, and the main goal of the study, demographic factors are variables that characterize a population or group of individuals. These factors include age, gender, type of degree program, scholarship status, sexual orientation, and relationship status. These factors would be used to study the characteristics of this study's population and identify patterns and trends in the data on suicidal ideation.

Research instruments

A structured questionnaire containing standardized instruments was used to collect data in this study (see Appendix 1). The questionnaire contained seven (7) sections each seeking information on variable (s) of interest. The seven (7) sections are briefly highlighted thus:

Section A: This section tapped pieces of socio-demographic information of the research participants, such as age range, gender, type of degree programs, scholarship status, sexual orientation, and relationship status.

Section B: The Plutchik Suicidal Risk Scale (PSRS) was designed by Plutchik et al. (1989) to assess suicidal risk in individuals; this Spanish-adapted and validated version was used to evaluate suicidal ideation in the selected participants. PSRS is a 15-item self-reported measure that describes the extent to which a person exhibits features comparable to those of a suicide prototype (Plutchik et al., 1989). This scale assesses previous suicide attempts, the intensity of current suicidal ideation, despair, hopelessness, and other variables. All affirmative responses are assigned a value of 2, indifference as 1, and no (negative responses) are assigned a value of 0. The scale's internal consistency of the Mexican population was 0.749% by a study from a university (Santana-Campas & Telles, 2018). This scale has been validated and found reliable in Mexican adult and youth populations, with a proposed cut-off point for suicide risk of 12 or higher (Santana-Campas et al., 2018) adopted in this study.

This study found a Cronbach's alpha of .830 coefficient for this scale. In the present study, the greater the score, the higher the suicide risk.

Section C: The Oslo Social Support Scale (OSSS-3; Meltzer, 2003) measures the extent of social support being received by individuals from friends, relatives, and related authorities. It has been found reliable and valid for use among Spanish speakers including Mexico (Faris et al., 2023; Greene et al., 2022; Vilar-Compte et al., 2018). Included are the following items: 1. How many individuals are so close to you that you can rely on them when you have significant personal difficulties? With responses of none (0), 1 to 2, 3 to 4, and 5 or more times; 2. How much interest and concern do people exhibit in what you do? with responses ranging from none (=0) to a great deal (=4). Since Item and 3. How simple is it to obtain practical assistance from neighbors if needed? The response ranges from extremely difficult (=0) to extremely easy (=4). The total sum score for OSSS-3 ranges from 3 to 14, with high values indicating high levels of social support and low values indicating low levels of social support. This continuous score was used to derive normative data for the OSSS-3 at each scoring point and to identify age- and gender-based group differences. According to Dalgard et al. (2006), the OSSS-3 total score can be operationalized into three broad categories of social support: 3–8 poor social support, 9–11 moderate social support, and 12–14 robust social support. It has been validated among Spanish-speaking young adults (Barry, 2012; Jordan, 2019). This study found a Cronbach's alpha of .721 coefficient for this scale.

Section C: The Environmental Worry Index (EWI) was an 11-item scale that was designed to evaluate the worry that erupts from environmental degradation and distress (Oguntayo et al., 2022). EWI-11 is suitable for both the student population and the general population. It was developed using environmental experts and college students between the ages of 18 and 65, with topics that covered a pool of elements of environmental hazards and related concerns. Using 925 individuals, the psychometrics of the index were assessed; construct validity and Varimax rotation revealed that the scale consisted of two components and it showed the Kaiser-Meyer-Olkin (KMO = 0.892, df = 91, p =.00) indication of strong validity. The reliability dimensions and subscales (Proximal, =.894, and Personal experience of worry =.671) are dependable. Overall, the items are rated in line with the Likert scale format using a 5-point scale ranging from 0 = not at all, unusual of me =1, undecided = 2,

sometimes = 4, and all the time = 5. Samples of the questions include, "I feel concerned when I think about the increase in air, water, land, and noise pollution", "I worry about flood disasters in my environment, "I tend to worry when I hear about food and water scarcity in my location," and "Whenever I hear about the weakness of ozone layers, my heart beats faster".

During the pilot study, the researcher has adapted, translated the scale to Spanish language, and validated it among UACJ students; the KMO; (=0.891) and Bartlett's Test of Sphericity ($p < 0.001$) showed adequate data. Confirmatory factor analysis (CFA; χ^2 (5) = 78,595, CFI = 0.94, and RMSEA = 0.078) demonstrated adequate goodness of fit. EWI was associated with the Climate Anxiety Scale of Clayton & Karazsia (2020) and neuroticism and conscientiousness but negatively correlated with agreeableness on the Big Five Personality Inventory (BFI-15; Gerlitz & Schupp, 2005). After analyzing all items, item 11 was deleted because the communality value was less than 50, and it loaded on the two subscales measuring two constructs at the same time, so it was removed. Also, the two dimensions according to the original authors (Oguntayo et al., 2023) were retained (proximal worry α=.894; personal experience of poor environmental worry α =.692), and the aggregate coefficient of internal consistency was (α=.876) with a mean score according to the pilot study being 18.10, SD = 6.68. This study found a Cronbach's alpha of .940 coefficient for this scale. The higher scores on EWI indicate a higher level of environmental worry.

Section D: The Acceptance and Action Questionnaire–II (AAQ-II; Bond et al., 2011) was designed to assess the Cognitive rigidity and experience avoidance of individuals. The AAQ-II is a unidimensional test used to assess experience avoidance and cognitive rigidity. It contains 7 items, each with seven response options, with scores ranging from 1 (never true) to 7 (always true). The items address the challenges associated with negative emotions and thinking (e.g., "I fear my feelings"). The adaptation to Spanish by Ruiz et al. (2013), in which the instrument demonstrated good internal consistency (α= 0.88) and its correlation with the Beck Depression Inventory-II and the Symptoms Checklist 90-R revealed a convergent validity. The AAQ-II scores were significantly correlated with general psychopathology and quality of life variables. This study found a Cronbach's alpha of .912 coefficient for this scale. To determine participants' AAQ-2 scores, responses are summed directly on each

question. Lower overall scores imply better flexibility, while high scores indicate cognitive rigidity.

Section E: Measures of psychological Maladjustment involve:

The Patient Health Questionnaire-2 (PHQ-2) will be utilized to investigate the frequency of depressive moods in student participants (Kroenke et al., 2003). The two-item is, "During the past two weeks, how frequently have you experienced any of the following issues?" The two symptoms are "lack of interest or pleasure in activities" and "feeling sad, melancholy, or hopeless." For each item, the response options "not at all," "a few days," "more than half the days," and "almost every day" are scored as 0, 1, and 3, respectively. In a sample of Mexican university students, Arrieta et al. (2017) discovered adequate validity and consistency (α=.84). This study found a Cronbach's alpha of .937 coefficient for this scale. The PHQ-2 score ranges between 0 and 6; a score between 3 to 6 indicates depressive symptoms.

General Anxiety Disorder 2 (GAD-2): The GAD-2 is an adaptation of the GAD-7 that measures two DSM-IV core anxiety symptoms connected with emotional and cognitive expression (Skapinakis, 2007). The two items of the GAD-2 are; "Feeling of discomfort, anxiety, or having your nerves on edge" and "Inability to stop worrying or regulate one's fears." It has an adequate alpha coefficient (α=.84) and validity coefficients in a sample of Peruvian college student study (Dominguez-Lara & Merino-Soto, 2016) and Mexico based study has revealed the high validity and reliability of this scale among adults (Gaitán-Rossi et al., 2021). This study found a Cronbach's alpha of .945 coefficient for this scale. The response is on a 4-point Likert scale of "not at all=0," "several days=1," "more than half the days=2," and "nearly every day=3." The score ranges from 0 to 6. A score of 3 points or above indicates possible cases of generalized anxiety disorder.

The Brief Resilience Scale (BRS) assesses an individual's ability to recover from stressful situations; this scale was developed by Smith et al. (2008); in this study, the BRS was utilized to assess resilience. It includes six items: three (direct) written in the same direction as the scale (1, 3, and 5) and three (indirect) written in the opposite direction (2, 4 and 6). The response categories on a five-point Likert scale span from strongly disagree (1)

to strongly agree (5). Two samples of university students in Chile and Mexico with satisfactory results for factorial structure, reliability (α.74), convergent validity, and discriminant validity were reported, indicating the validity of the scale for measuring resilience (Hidalgo-Rasmussen & Gonzalez-Betanzos, 2019). This study found a Cronbach's alpha ranging from .656 to .70 for this scale. The scale generates a single score by adding the six component scores and dividing by the total number of items. The higher the final score, the stronger the individual's level of resilience.

Statistical analysis

The collected data was analyzed using the Statistical Package for Social Sciences (SPSS 27.0 software). The participants' demographic data were analyzed using descriptive statistics (percentage, frequency, mean, standard deviation, and kurtosis), and hypotheses were analyzed using inferential statistics such as Pearson's product-moment correlation, regression, and macro-process analysis of Hayes through SPSS (Abu-Bader, 2021).

The Qualitative Study (Phase Two)

The second phase of this study used a qualitative approach with an explanatory design. This method is necessary to provide a functional explanation of how to suggest solutions with certain contextual components of problems discovered in the quantitative phase, with only two elements: needs, requirements, and components of the solution to the discovered challenges among participants (Baskerville & Pries-Heje, 2010).

Sampling techniques

Participants consisted of students from the UACJ who had a history of suicidal attempts. Respondents were interviewed to investigate and collect data based on the study's research questions. The selection of participants was guided by the earlier quantitative survey conducted among the institution's students. After identifying certain factors predisposing and precipitating students to suicidal ideations, appropriate categories of students, such as suicidal survivors, were purposively assessed as respondents based on their

willingness to participate. Also, based on credibility, relevance, and experience of mental health and suicidal behavior history.

Participants

Respondents were nine (9) male and female suicidal survivor undergraduates and postgraduates who volunteered to participate and signed informed consent at UACJ. The participants' age ranged from 18 to 30 years old ($(\bar{x})$ = 25.22, SD = 4.66). The participants did provide demographic information about their age and gender, but for ethical reasons, they did not disclose their departments and study programs.

The participants' sex distribution was relatively balanced, with five (5) males and four (4) females. This demographic snapshot highlights a group of university students with bachelor's, master's, and doctorate degrees, predominantly in their early to mid-twenties, with a nearly equal gender split. The uniformity of the student type of suicidal survival characteristic across courses in UACJ suggested a homogeneity of variance in the population in terms of their academic engagement and related experiences, which may influence their perspectives and responses in the context of the study (see Table 7 for details).

Inclusion criteria: The inclusion requirements for this study involved the participation of student suicidal survivors who were registered and affiliated with UACJ. Additionally, student volunteers from the UACJ who possess fluency in either Spanish or English were only included. The participants, regardless of sex, age, sexual orientation, and degrees participated only and provided informed consent and possessed an understanding of the objectives of this study.

Exclusion Criteria: The exclusion criteria were applied to individuals who failed to meet the predetermined inclusion criteria, resulting in their exclusion from the first phase of this study. This study would exclude university students who are not enrolled in UACJ as either postgraduate or undergraduate students. Additionally, those who are unable to communicate in Spanish or English would also be disqualified from participation in this study. Furthermore, students who have no history of suicidal behaviors were not mentally fit,

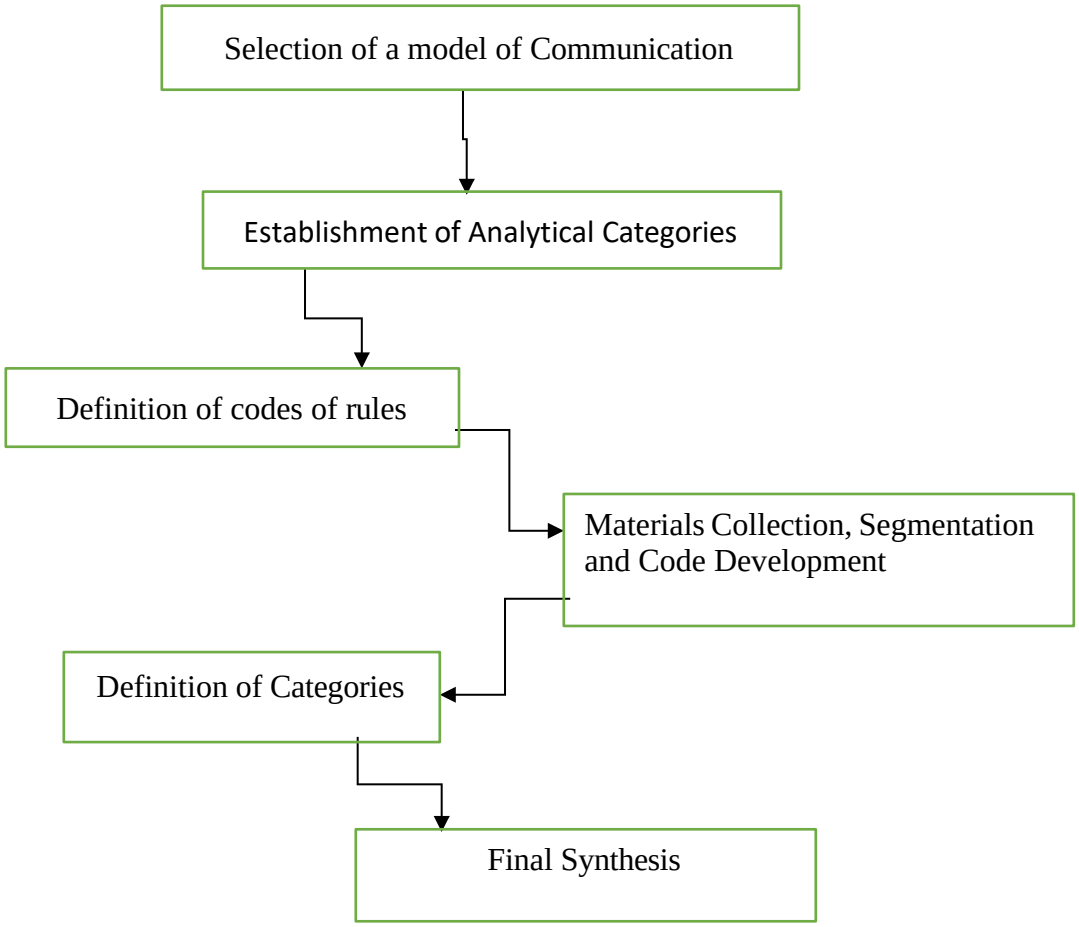
or have declined to participate, and did not sign informed consent were excluded from this study.

Setting

The present study was conducted at the *Universidad Autónoma de Ciudad Juárez*, fondly called UACJ (a university situated at the Mexico border city of Juarez). This university was founded in 1973 (UACJ, 2022). Participants in this phase were from the various institutes of this university (ICSA, IIT, IADA, and ICB) that had a history of suicidal attempts. The selection of these respondents was based on the snowball sampling technique.

Figure 10.

Showing the Analytical Strategy of Qualitative Content Analysis of this Study



Note. Figure 10 is based on the six-step model of deductive-inductive development of content analysis proposed by Cáceres, P. (2003). Análisis Cualitativo De Contenido: Una Alternativa Metodológica Alcanzable. *Psicoperspectivas*, 2(1), 53-81. https://www.redalyc.org/articulo.oa?id=171018074008

The current study followed the six steps set out by Cáceres (2003) and Naeem et al., (2023) inductive-deductive approach. As shown in Figure 10, the study used this process to examine and focus on stressors such as social, academic, psychological, contextual, and systemic among participants. The instrument used was the in-depth interviews (IDIs) with students. In line with Cáceres (2003), the following are the detailed analytical strategies used in this study:

Step 1: The selection of a communication model: At this stage, the study incorporated the research objectives to guide the identification of certain protective factors into modules to alleviate recurring academic and life stressors that lead to suicidal ideation among students. Specifically, for college students struggling with academic stress, anxiety, depression, cognitive rigidity, low resilience, social support, familial issues, and study/life imbalance, the data sources were IDIs with students.

Step 1 also involved preparing the data using transcription. The transcription involved converting the audio recordings from IDIs into text format. To ensure accuracy in capturing verbatim responses, the researcher transcribed all the compiled documents into a single document and then stored them in a database for a systematic analysis. The study organized the data based on themes.

Step 2: Establishment of Analytical Categories: In this second stage, the researcher established initial categories that aligned with the analytical categories used in this study. This stage encompassed various psychological stressors and variables, including anxiety, depression, cognitive rigidity, and resilience. The social stressors included social support, familial issues, study-life imbalances, and contextual systemic support. The current study sub-categorized and analytically coded the data as follows: Psychological stressors subcategories involved: anxiety, depression, perceived burden, perceived love and belongingness, low resilience, and cognitive rigidity. The study subdivided academic stress into two categories: course pressure and academic burnout. Familial violence exposure was

subcategorized into parental conflict, bullying, problematic intimate relationships, and aggression toward others. The study subdivided familial problems into parental expectations, family pressures, and financial problems, while contextual system support encompassed access to treatment services, treatment satisfaction, and help-seeking behaviors.

As the Three-Step Theory (3ST) posited, Suicidal ideation progresses through three stages: (a) feelings of hopelessness and pain which was acclaimed to surpass lack of connectedness as predictors of suicidal ideation (Klonsky et al., 2015). In this theory, social pressure, which in the current study included academic pressure, family expectations, and familial conflicts, is a key factor that causes suicidal ideation. These factors can create significant stress and a sense of failure or inadequacy, thereby fostering hopelessness and pains that lead to Suicidal ideation. Also, perceived burden, love and belongingness, anxiety, depression, low resilience, cognitive rigidity, and concerns like climate change could be comorbid to cause these hopelessness and pains (Klonsky et al., 2015; Oguntayo, 2023; Oguntayo & Gutierrez-Vega, 2024).

This second stage of step 2 involved ‘defining the coding frame’. Researchers first developed 'Initial Codes', which are based on a literature review as described by Klonsky et al. (2015) and a preliminary reading of the transcripts. For instance, codes in this present study included "academic pressure," "depression," "anxiety," "family conflict," “resilience skills," “cognitive rigidity,” "social support", etc. This second stage also involved data refinement. As new themes emerged during the transcription and reading, the researcher adjusted the coding frame.

Step 3: Definition of Coding Rules: This third stage involves defining what constitutes each category and sub-category, such as academic stress, which may involve mentions of stress related to study, examination, assignments, grades, competitions, etc. Anxiety and depression involve references to feelings of overwhelming fear, sadness, lack of motivation, etc., when an individual perceives self as a problem to others as a ‘perceived burden’ and a need for love and affiliation as love and belongingness. Low resilience and cognitive rigidity involve instances of difficulty adapting to changes and persistent negative thinking without being able to become positive about oneself. Social support is defined as

instances of perceived or actual support from friends, family, faculty, and so on. "Study life imbalance" refers to low skills in time management and a lack of leisure time, while "family issues" refers to situations involving family pressure, conflicts, or financial difficulties.

In segmenting the text**,** it categorized the breakdown of the transcripts into manageable segments, such as phrases, sentences, or paragraphs that represent a single idea or concept. The study also used contextualization to ensure that segments are meaningful within the context of the discussion about suicidal ideations and related stressors.

Step 4: Material Collection and Segmentation: At this stage, researchers collected data and gathered transcripts from IDIs. Using the segmented data from stage 3, the researchers broke down the interviews into manageable units, such as sentences and paragraphs, for analysis. The researcher, for instance, tagged a student's interview segment, "I feel constant pressure to get good grades because my parents expect me to succeed academically," as familial pressure.

The researcher further developed categories and coded the scheme as follows: (a), Grouping Codes: Group similar codes into broader categories, such as "psychological stressors," “social stressors”, "academic stressors," "family problems," “familial violence exposure”, and contextual system supports. (b) Hierarchical Structure: To ensure comprehensive data coverage, a hierarchical structure was created for these categories and subcategories (see Figure 15).

Step 5: Category Development: In this stage, the researcher used the group Similar Segments and the group Together Segments that pertain to the same categories. For example, it grouped all segments where students mention "parental pressure" under the category of "familial issues," fear, worries, and moodiness under psychological stressors, low ability to cope under “low resilience, “stress in school or course under “academic pressure,” etc. Also, when refining the categories, the researcher analyzes more data and refines categories and sub-categories to better fit the data. For example, split "family issues" into more specific sub-categories if needed, like "parental expectations" and "sibling competition."

The text's coding, for example, assigned the developed codes to the corresponding segments of the text. Use software like Atlas.ti 8 or manual coding methods to mark each segment. It also regularly employs consistency checks to verify consistency in coding across various coders, thereby ensuring reliability.

Step 6: Summarization and Interpretation: The sixth stage, which is the last, summarizes the findings by condensing the categorized data into meaningful summaries. For instance, "a significant number of students reported that academic pressure from their families contributes to their anxiety and depression." The researcher interpreted the results by connecting the findings to the research question and theoretical framework and then comparing them to the initial quantitative results through triangulation. It further discussed how academic pressure, familial issues, psychological stressors, low resilience, a lack of psychological support systems, etc., contribute to suicidal ideation among college students. It also used a visual representation, as shown in Figure 15, to illustrate the relationships between different categories. For example, it showed how academic stress and familial issues, among other variables or themes, interrelate and contribute to suicidal ideations.

Figure 15 illustrates how various stressors and support factors interact and potentially lead to suicidal ideations. Following these steps ensured a systematic and rigorous approach to this qualitative content analysis, yielding insightful findings on the psychosocial causes of suicidal ideations and their preventive measures among college students. This method allowed for the development of targeted preventive measures based on the identified stressors, protective factors, and support systems. Using the following: (a) Thematic analysis: identified patterns and themes across the coded data that explain the psychosocial causes of suicidal ideations. (b) Interrelation of Factors: Analyzed how different stressors interact and contribute to suicidal ideations among college students; and (c) Preventive Measures: In the end, the study suggested and built interventions based on the findings, such as improved mental health support, academic counseling, family therapy, and enhanced social support systems.

Instruments

In the qualitative part of this study, In-Depth Interviews (IDI) were adopted to obtain data from selected participants. This qualitative phase used semi-structured interviews to gauge information among student volunteers with a history of suicidal behavior. The results in this phase had been hypothesized to have implications for the preventive intervention that would be used following the theoretical and conceptual framework of the Three Steps Theory and paradigm being considered as mental health needs or psychological need-threats that cut across psychosocial factors in this study (See the appendix for the interview guide and the key informant protocol).

Procedures

The researcher sought authorization and permission from the '*Servicios de Atención Psicológica Universitaria*' (SUAPSI) and it was granted. Also, the approval of the research was sought from members of the Ethical Committee of the UACJ. Following the best standards of the Institutional Review Board (IRB), the approval of the Ethical Committee of the UACJ was obtained. For this qualitative phase, participants consisted of students and mental health professionals from the SUAPSI at UACJ.

Data was collected using semi-structured questions guided by the study's research questions. The participants' process of recognizing the stressors for suicidal ideation and their personal experiences with regards to study life balance, and other social factors, as well as their psychological needs that could subsequently reduce mental health problems, such as support programs and behavioral changes in interpersonal relationships between students and teachers, friends, colleagues, and staff were explored. This was informed by the results of a quantitative study. It is expected that a healthy psychological and learning environment with cognitive resilience, cognitive rigidity, and coping strategies could alleviate stressors of suicide behavior and suicidal behavior itself. In addition, respondents' willingness to use counseling and other mental health facilities or services on campus was explored during this interview.

The interview sessions were conducted in a private and suitable office to ensure privacy and a conducive atmosphere for the respondents. The duration of each interview session should be between 45 and 90 minutes. The researcher assured the participants' consent, anonymity, free participation, and confidentiality. Drive encryption and passwords, accessible only to researchers and disseminators, protected the quantitative and qualitative data.

Ethical consideration

Following international ethical standards, the IRB, the Ethical Committee of the UACJ, approved this study (CEI protocol reference number: CEI-2023-1-63), and the SUAPSI authority of the UACJ authorized this study. The researcher explained the study's essence, benefits, and foundations to the participants, who volunteered to participate and signed the informed consent. The study also ensured adherence to participants' anonymity, free participation, and confidentiality.

The study followed IRB protocols, which mandate that the investigator should immediately refer respondents to mental health professionals within the university if they exhibit any symptoms or seizures, such as major depression, acute threats, or suicidality. Specifically, the researcher always referred participants with active suicidal cases or suspected suicide risks to SUAPSI at ICSA, where they received monitoring, treatment, and follow-up until they were no longer considered suicidal.

Also, the researcher in this study ensured the participants' privacy, anonymity, and confidentiality by removing all their identifications and using drive encryption and passwords accessible only to the researcher and the thesis directors alone. After three years of keeping this data, it will be destroyed following ethical guidelines.

Data Analysis

The researcher collected the qualitative data using audio recordings and notepad annotations, paying close attention to body language and expressions during sessions and also capturing the affective and cognitive components of respondents' behavior during

interviews. It used Atlas.ti software 24 version to content analyze and gauge the key themes and sub-themes in research question 4. The researcher cleaned, transcribed, coded, compared, refined, and content-analyzed the data. The researcher modified the themes through a series of evaluations and iterations until reaching a collective conclusion (Baskerville & Pries-Heje, 2010).

Research Schedule

The UACJ's Institutional Ethics Committee approved the current doctoral thesis study, and Table 1 shows the work schedule. The activities involved include: (i) preparing the doctoral thesis project from August to December 2022; (ii) seeking and receiving approval from the UACJ Ethics Committee in ICSA from January to June 2023; (iii) conducting fieldwork to pilot the study, validate instruments, calibrate, and administer instruments to participants from August to December 2023; (iv) analyzing the collected data, presenting results, and drawing conclusions; and finally, presenting the doctoral thesis between January and June 2025.

Table 1.

Schedule of Research Activities

Activities	August-December 22	January-June 23	August-December 23	January-June 24	August-December 24	January-July 25
Development of the doctoral thesis project						
Review by the UACJ Ethics Committee						
Fieldwork– Piloting, validation, calibration, and application of instruments						
Data analysis, results, and conclusions						
Presentation of the doctoral thesis						

In summary, the methodology in health psychology research involves many methodologies when tackling and investigating conceptual and technical obstacles. Paradigms using positivism and interpretivism, with a mixed-method approach of quantitative and qualitative, are considered prominent strategies for addressing philosophical obstacles, although varied types of mixed-method designs can aid in addressing technological issues.

In this study, a mixed-methods strategy was employed to identify participants and collect data that were considered useful for future research and intervention on suicidal thoughts. While component studies of mixed-methods projects are published separately, the researcher has used critical remarks on previously published mixed-methods research to demonstrate how a range of mixed-methods designs can be modified and implemented to solve health psychology research questions. Consequently, and with a logical presentation, this study used a sequential explanatory mixed methods design. In this study, it was showed how to overcome the philosophical and technological constraints of mixed-methods research to evaluate simultaneously and concerning the larger research goals and objectives. This study is a paradigm shift and foundation for university-based research in health psychology and clinical practice around the globe, as it will contribute to the development of new methodologies.

Chapter III. Results

Description of the participants in the Quantitative Study

Participants in this study were UACJ students from various institutes (ICB, IADA, ICSA, and IIT) at UACJ who were undergraduates and postgraduates (master's and doctoral students). Table 2 showed that the study sample comprised 385 participants, with a mean age (($\bar{x}$) 27.45; SD = 8.146). For the sex distribution, there were 231 (60%) male and 154 (40%) female participants. Regarding sexual orientation, 24.7% identified as homosexual (95 participants), while 75.3% identified as heterosexual (290 participants). Participants between 18–34 years were 331 (86.0%), and those aged 35 and above were 54 (14.0%).

The participants' marital status showed that 45.2% were single (174 participants), and 54.8% were married (211 participants). Regarding their academic programs, 60.5% were enrolled in an undergraduate program (233 participants), and 39.5% were in postgraduate programs (152 participants). The participants' levels of study varied, with 24.9% being freshmen (96 participants), 44.7% in the middle of their program (172 participants), and 30.4% in their final years (117 participants). Their performance status indicated that 4.4% had grades between 5.00-6.99, 36.1% had grades between 7.00-7.99 (above average), 50.1% had grades between 8.00-8.99 (good), and 9.4% had grades of 9.00 or above (excellent). Regarding financial support, 53.2% of the participants were not on scholarship (205 participants), whereas 46.8% were on scholarship (180 participants).

Table 2.
Summary of Descriptive Analysis of the Demographic Factors

Variable	Frequency	(%)
Age Range		
18-34 years old	331	86.0
35 years old & above	54	14.0
Sex		
Male	154	40.0
Female	231	60.0
Relationship Status		
Single	174	45.2
In relationship/married	211	54.8
Sexual Orientation		
Heterosexual	290	75.3
Homosexual	95	24.7
Scholarship Status		
On scholarship	205	53.2
No Scholarship	180	46.8
Types of degrees		
Undergraduate	233	60.5
Postgraduate	152	39.5
Academic Performance Status		
Below average (5-6.99)	17	4.4
Above average (7.0-7.99)	139	36.1
Good (8.00-8.99)	193	50.1
Excellent (9.00-100)	36	9.4

Note. Table 1, percentage=%, the table showed the rundown of participants' characteristics across demography during this study at the quantitative phase.

Specific Hypothesis 1: There will be a significant relationship between age, resilience, social support, anxiety, depression, cognitive rigidity, environmental degradation worry, and suicidal ideation among the selected participants.

Based on hypothesis 1, the results presented in Table 3 showed the zero-order correlation of age, resilience, social support, cognitive rigidity, anxiety, depression, and environmental degradation worry with suicidal ideation among the selected participants. Results showed that a significant negative relationship existed between age (r = -.114, p< .05), resilience (r = -.725, p< .01), social support (r = -.404, p< .01), and suicidal ideations among the selected participants. Furthermore, analyses showed that there was a significant

positive correlation between cognitive rigidity (r = .701, p< .01), anxiety (r = .814, p < .01), depression (r = .813, p < .01), environmental degradation worry (r = .745, p < .01) and suicidal ideations among the selected participants.

The correlational results imply that participants who were older, more resilient, and who perceived greater social support were less likely to experience suicidal ideations. In this way, it means that higher age may contribute to better emotional maturity and coping skills, while resilience reflects an individual's ability to recover from adversity and manage stress effectively. Social support serves as a psychological buffer, providing emotional connection and a sense of belonging, which can reduce feelings of isolation and hopelessness, thereby reducing suicidal thoughts.

On the other hand, positive (higher scores on these variables) association of cognitive rigidity, anxiety, depression, and environmental degradation worry with suicidal ideation implies a greater suicidal ideation tendency. The results could be explained further that cognitive rigidity may limit a person’s flexibility in coping with challenges, making it harder to see alternative solutions to distress. Anxiety and depression contribute to overwhelming negative emotions and impaired problem-solving abilities, increasing vulnerability to suicidal thoughts. Worry about environmental degradation may intensify feelings of helplessness and existential fear, further elevating emotional distress and the risk of suicidal ideation. Consequently, the study further used hierarchical multiple regression to examine the prediction of cognitive rigidity, anxiety, depression, and environmental degradation worry on suicidal ideations while controlling for age, sex, sexual orientation, relationship status, scholarship status, and academic performance.

Table 3.

Summary Showing Inter-Variable Correlations among the Study's Variables

	1	2	3	4	5	6	7	8	Mean	Std. D
1. Age	-								27.45	8.15
2. Resilience	.146**	-							16.17	8.09
3. Social Support	-.058	-.287**	-						5.17	2.46
4. Cognitive Rigidity	-.207**	.560**	.527**	-					9.85	5.67
5. Anxiety	-.137*	-.807*	-.344**	.628**	-				3.75	2.50
6. Depression	-.131	.820**	-.377**	.615**	.945**	-			3.83	2.43
7. Environmental worry	-.079	-.629**	-.278**	.612**	.675**	.663**	-		21.50	9.75
8. Suicidal Ideation	-.114*	-.725*	-.404**	.701**	.814**	.813**	.745**	-	11.27	6.85

Note. **=p < .01, *=p < .05 (Correlation is significant at the 0.01 and 0.05 levels (2-tailed)

Specific Hypothesis 2: Respondents' age, sex, relationship status, scholarship status, sexual orientation, anxiety, depression, social support, cognitive rigidity, and environmental degradation worry will have significant joint and independent prediction of suicidal ideation among the selected participants.

The results and outcomes presented in Tables 4a, 4b, and 4c test Hypothesis 2. These results of the hierarchical multiple regression analysis are presented to assess the joint and independent predictive power of some specific variables on suicidal ideation. The first block

(Model 1) comprised the following variables: age (0 = old adults, 1 = young adults), sex (0 = male, 1 = female), sexual orientation (0 = heterosexual, 1 = homosexual), degree program type (0 = bachelor, 1 = postgraduate), relationship status (0 = single, 1 = in relationship), academic performance (0 = high, 1 = low), and scholarship status (0 = on scholarship, 1 = not on scholarship).

In Model 1, the predictor variables accounted for approximately 28.1% of the variance in suicidal ideation (R2 =.28.1, F(8, 376) = 18.34, p <.01). Also, the result at block 1 showed that sexual orientation that is, being heterosexual (β = -0.113, p < .05), scholarship status, specifically being on scholarship (β = -0.271, p < .01), and academic performance (being high on performance) (β = -0.287, p < .01) negative impacted suicidal ideations among participants. However, the controlling variables as a whole only account for 28.1 percent of the changes that occurred in participants' suicidal ideations in model 1. Though the adjusted R-squared was moderately low, the F-change (from 0 to 18.34) for model 1 is still significant. Also, Table 4b, which showed ANOVA results, further confirmed the significance of Model 1.

In Model 2, the inclusion of additional predicting variables increased the explained variance (R2 =.781, F(13, 371) = 141.28, p <.01) to approximately 78.1%, indicating a substantial improvement in the model's explanatory power. The significant F-ratio in both models (Model 1: F(8, 376) = 20.890, p < .01; Model 2: F(14, 370) = 94.485, p < .01) indicated that the models are statistically significant predictors of suicidal ideation. The coefficients for the predictors in both models as provided in Table 4c indicated the direction and magnitude of the relationships between the predicting variables and suicidal ideation.

Specifically, Model 2 results showed that there were significant predicting outcomes on variables such as being heterosexual (β = -1. 776, p< .05), being high on academic performance (β = -3.766, p < .01), being on scholarship status (β = -3.766, p< .01), being resilient (β = -0.141, p < .01), and experiencing on social support (β = -0.126, p< .01) predicted suicidal ideations with negatively impacts. On the other hand, participants' cognitive rigidity (β = 0.204, p < .01), anxiety (β = 0.598, p < .01), depression (β = 0.716, p < .01), and environmental degradation worry (β = 0.165, p < .01) predicted suicidal ideations with positive impacts.

These results indicate that various factors such as, academic (high academic performance), social (being on scholarship status and social support), psychological (resilience, cognitive rigidity, anxiety, and depression), and environmental factors (environmental degradation worry) significantly contribute to the prediction of suicidal ideation while accounting for approximately 78.1% variance in the model's explanatory power among the participants. Among the studied participants, the joint and independent effects of both the controlling and predicting variables yielded a thorough understanding of the risk and protective factors of suicidal ideation. For example, results on cognitive rigidity, anxiety, depression, and environmental degradation worry showed positive impacts on suicidal ideation, suggesting these variables as risk factors. Conversely, good academic performance, being on scholarship, heterosexuality, resilience, and social support were found to be protective factors of suicidal ideation, as the results showed negative impacts on suicidal ideation.

Table 4a.

Showing results of hierarchical multiple regression model summary

Model	R	R^2	Adjusted R^2	Std. Error of the Estimate	R^2 Change	F Change	dfl	df2	Sig. F Change
1	.530	.281	.265	5.87	.281	18.34	8	376	.000
2	.884	.781	.773	3.44	.501	141.28	6	370	.000

Table 4b.

One-way ANOVA Results

Model		Sum of Square	Df	Mean square	F	Sig
1	Regression	5061.078	8	632.635		
	Residual	12991.985	377	34.495	18.340	.000
	Total	18031.262	384			
2	Regression	13646.655	14	1006.435		
	Residual	4384.607	370	10.652	94.485	.000
	Total	18031.262	384			

Table 4c.

Model coefficient

	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	T	Sig
Model 1					
(Constant)	23.201	1.944		11.918	.000
Sex	.934	.630	.067	1.483	.013
Age	-1.200	.849	-.072	-1.414	.023
Sexual orientation	-1.796	.712	-.113	-2.521	.012
Degree program Type	.789	.521	.085	1.503	.089
Relationship status	.107	.416	-.009	-.202	.987
Level/Year in Study	-.084	.494	.012	.216	
Academic Performance	-2.723	.505	-.283	-5.395	.000
Scholarship Status	-3.766	.737	-.275	-5.110	.000

Model 2					
(Constant)	1.347	1.653		.862	.389
Sex	. 494	.360	.035	1.373	.170
Age	.148	.476	.009	.311	.756
Sexual-Orientation	-.001	.406	.000	-.004	.997
Degree program's Type	.249	.294	.027	.848	.397
Level/Year in Study	.171	.233	.019	.731	.465
Relationship status	-.123	.279	-.013	.439	.661
Academic Performance	-.558	.296	-.058	-1.885	.060
Scholarship Status	-.687	.428	-.050	-1.605	.109
Resilience	-.141	.138	.148	-2.078	.022
Social support	-.126	.083	-.045	-1.528	.012
Cognitive Rigidity	.204	.048	.169	4.272	.000
Anxiety	.598	.217	.219	2.575	.006
Depression	.716	.226	.254	3.171	.002
Environmental worry	.165	.026	.234	2.262	.000

Note. **=p < .01, *=p < .05.

Specific Hypothesis 3: Resilience and social support will mediate significant relationships between anxiety, depression, cognitive rigidity, environmental degradation worry, and suicidal ideation among selected participants.

The results in Table 5, and Figure 11 demonstrated that anxiety significantly predicted suicidal ideation. The mediation analysis showed the relationship between anxiety and suicidal ideation (SI), with resilience and social support shown as mediators through the revealed significant total, direct, and indirect effects. The total effect of anxiety on suicidal ideation was significant ($\beta = 2.2046$, SE = 0.0798, t = 12.61, $p < .001$, 95% CI

[2.048, 2.361]), implying that individual participants with higher anxiety levels displayed experiences of suicidal ideation.

After the study accounted for the mediating variables, the direct effect of anxiety on SI remained significant ($\beta = 1.718$, SE = 0.1334, $t = 12.89$, $p < .001$, 95% CI [1.457, 1.198]). This result indicated that anxiety directly contributed to SI even when resilience and social support were considered, highlighting anxiety's significant influence on SI without the mediators. In addition, to the indirect effects, the results showed that anxiety significantly impacted resilience ($\beta = 2.5870$, SE = 0.0967, $t = 26.75$, $p < .001$, 95% CI [2.397, 2.778]). In other words, lower resilience was associated with higher suicidal ideation ($\beta = -0.1417$, SE = 0.4047, $t = -2.295$, $p < .001$, 95% CI [-0.2218, -0.0617]). The indirect effect through resilience was significant ($\beta = 0.3667$, 95% CI [0.1219, 0.6275]), which indicated that part of the effect of anxiety on SI operates through reduced resilience.

Similarly, anxiety was found to negatively influence social support ($\beta = -0.3317$, SE = 0.0471, $t = -4.295$, $p < .001$, 95% CI [-0.4243, -0.2390]), which suggested that higher anxiety correlated with lower levels of perceived social support. This reduction in social support was further related to increased suicidal ideation ($\beta = -0.3591$, SE = 0.0836, $t = -4.295$, $p < .001$, 95% CI [-0.5235, -0.1947]). The indirect effect through social support, though partial or at a weaker level, was significant ($\beta = 0.1191$, 95% CI [0.0621, 0.1840]), which indicated social support's mediating role in the relationship between anxiety and SI.

The total indirect effect of anxiety on suicidal ideation through resilience and social support was significant ($\beta = 0.4858$, SE = 0.1312, 95% CI [0.2337, 0.7492]). This suggested that while anxiety directly influenced SI in this study, a portion of its impact is mediated through cognitive resilience and social support factors. These findings underscored the importance of resilience and social support as protective factors that could be used to mitigate the adverse effects of anxiety on suicidal ideation. This implicated that interventions enhancing resilience and strengthening social support could potentially reduce the risk of suicidal ideation among individual students with high anxiety comorbid with suicide.

Table 5.

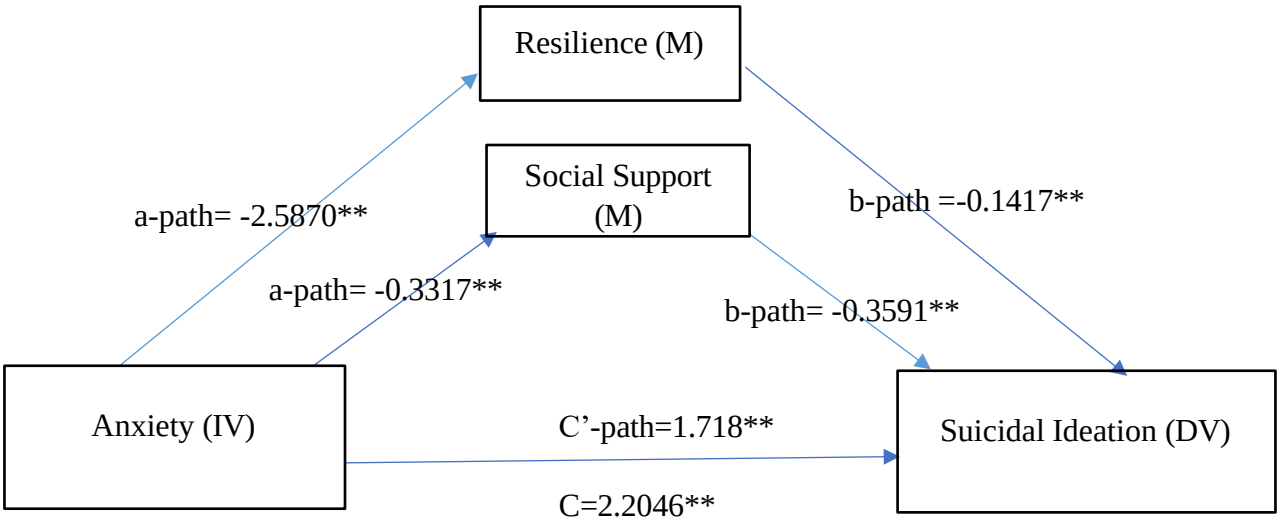
Mediation Analysis Showing Total, Direct, and Indirect Effects of Anxiety on Suicidal Ideation

Path Analysis	Effect Type	Effect	SE (β)	t	p	LLCI	ULCI	Standardized Effect (β)
A-Path	Anxiety to Resilience	-2.5870	.0967	26.75	.001	2.397	2.778	.7998
	Anxiety to SS	-.3317	.0471	-4.295	.001	-.4243	-.2390	-.3374
B-Path	Resilience to SI	-.1417	.4047	-2.295	.001	-.2218	-.0617	-.1674
	SS to SI	-.3591	.0836	-4.295	.001	-.5235	-.1947	-.1289
C-Path	Total Effect of Anxiety on SI	2.2046	.0798	12.61	.001	2.048	2.361	.8051
C'-Path	Direct Effect of Anxiety on SI	1.718	.1334	12.89	.001	1.457	1.198	.6277
Indirect Effect	Total indirect effect (Anxiety via Resilience and SS to SI)	.4858	.1312	-	-	.2337	.7492	.1774
Indirect Effect	Indirect Effect via Resilience	.3667	.1292	-	-	.1219	.6275	.1339
Indirect effect	Indirect Effect via SS	.1191	.0310	-	-	.0621	.1840	.0435

Note. ***=p< .01; **=p< .05; β=beta (b), M = mediator; LLCI = bootstrap lower limit confidence interval; ULCI = bootstrap upper limit confidence interval; Level of confidence for all confidence intervals in output was 95.0000; number of bootstrap samples for bias-corrected bootstrap confidence intervals = 5,000.

Figure 11.

Showing a Mediational Role of Social Support and Resilience in the Relationship between Anxiety and Suicidal Ideation



Note. **=p < .01, *=p < .05.

The results in Table 6, and Figure 12 showed that in a-path, depression significantly predicted resilience and the results indicated significant total, direct, and indirect effects of depression on suicidal ideation. The total effect of depression on SI was significant (β = 2.2046, SE = 0.0836, t = 27.07, p < .001, 95% CI [2.0981, 2.4268]), which indicated that individual participants with higher levels of depression experienced suicidal ideation in this study. This total effect highlighted the strong influence of depression on SI before considering the mediating variables.

After the study accounted for resilience and social support, the direct effect of depression on SI remained significant (β = 1.748, SE = 0.1463, t = 11.946, p < .001, 95% CI [1.460, 2.053]). This finding indicated that depression independently contributed to suicidal ideation, even after considering the potential buffering effects of resilience and social support (the indirect effects), the results showed that depression significantly influenced resilience (β = 2.707, SE = 0.0975, t = 27.75, p < .001, 95% CI [2.515, 2.898]), which implied that lower resilience was associated with increased SI (β = -0.1473, SE = 0.0427, t = 3.448, p < .001,

95% CI [0.1633, -0.2313]). The indirect effect through resilience was also significant (β = 0.3986, 95% CI [0.1258, 0.7051]), which indicated that resilience partially mediated the effect of depression on suicidal ideation.

Similarly, depression was negatively associated with social support (β = -0.3733, SE = 0.0481, t = -7.761, p < .001, 95% CI [-0.4678, -0.2787]), which suggested that individual participants with high depression experienced lower perceived social support. More so, lower social support was also associated with increased SI (β = -0.3114, SE = 0.0866, t = -3.595, p < .001, 95% CI [-0.4817, -0.1411]). The indirect effect through social support, though weak, was also significant (β = 0.1162, 95% CI [0.0553, 0.1869]), which indicated its partial role in mediating the relationship between depression and suicidal ideation.

Overall, the total indirect effect of depression on SI through resilience and social support was significant (β = 0.515, SE = 0.1523, 95% CI [0.2354, 0.8353]). This suggested that while depression directly contributed to SI, its impact was also partially mediated through reductions in resilience and social support. This finding implicated the protective roles of resilience and social support in mitigating the impact of depression on suicidal ideation. The results implied that these factors when built into interventions may help reduce suicidal risk among the college student population experiencing depression.

Table 6.

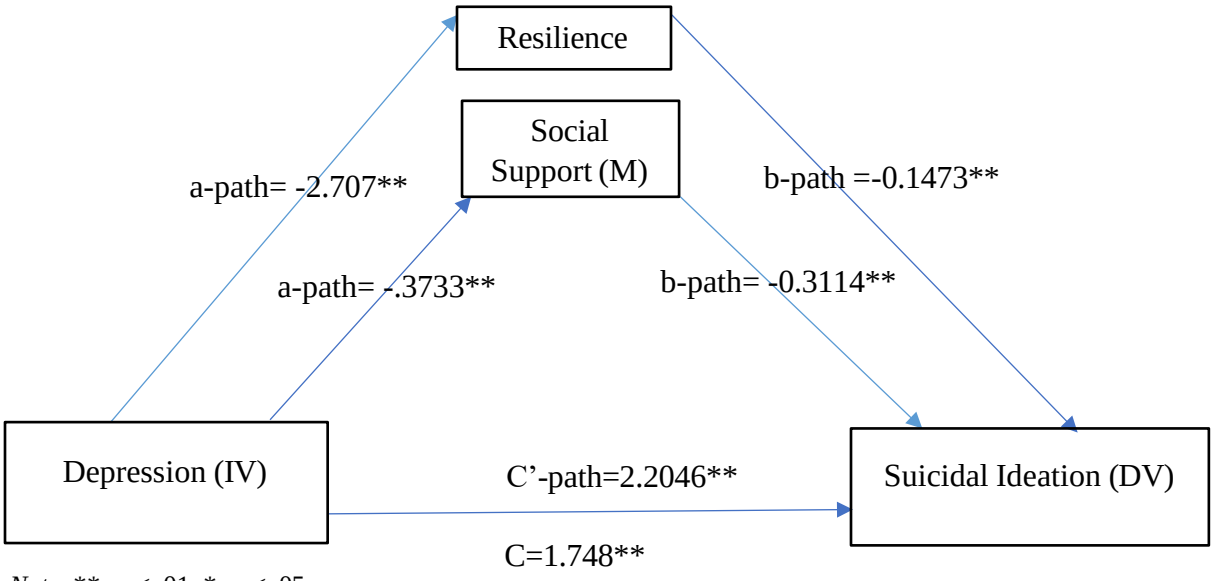
Mediation Analysis Showing Total, Direct, and Indirect Effects of Depression on Suicidal Ideation

Path Analysis	Effect Type	Effect	SE (β)	T	p	LLCI	ULCI	Standardized Effect(β)
A-Path	Depression to Resilience	-2.707	.0975	27.75	.001	2.515	2.898	.8132
	Depression to SS	-.3733	.0481	-7.761	.001	-.4678	-.2787	-.3690
B-Path	Resilience to SI	-.1473	.0427	3.448	.001	.1633	-.2313	-.1740
	SS to SI	-.3114	.0866	-3.595	.001	-.4817	-.1411	-.1118
C-Path	Total Effect of Depression on SI	2.2046	.0836	27.07	.001	2.0981	2.4268	.8030
C'-Path	Direct Effect of Depression on SI	1.748	.1463	11.946	.001	1.460	2.053	.6203
Indirect Effect	Total indirect effect (Depression via Resilience and SS to SI)	.515	.1523	-	-	.2354	.8353	.1827
Indirect Effect	Indirect Effect via Resilience	.3986	.1458	-	-	.1258	.7051	.1415
Indirect effect	Indirect Effect via SS	.1162	.0336	-	-	.0553	.1869	.0413

Note. ***=p< .01; **=p< .05; SI= Suicidal Ideation; SS= Social Support; M = mediator; LLCI = bootstrap lower limit confidence interval; ULCI = bootstrap upper limit confidence interval; Level of confidence for all confidence intervals in output was 95.0000; number of bootstrap samples for bias-corrected bootstrap confidence intervals = 5,000.

Figure 12.

Showing a Mediational Role of Social Support and Resilience in the Relationship between Anxiety and Suicidal Ideation



Note: **=p < .01, *=p < .05.

The findings in Table 7 and Figure 13 showed that resilience (β = -0.7841, p <.001) and social support (β = -0.2258, p <.001) with negative impact significantly predicted cognitive rigidity while mediating its relationship with suicidal ideation. Furthermore, resilience, through its impact on cognitive rigidity, significantly predicted suicidal ideation (β = -0.4049, p <.001), indicating an association between higher resilience and lower suicidal ideation. Social support also mediates the relationship but to a lesser extent. Cognitive rigidity is negatively associated with social support (β = -.2258, p < .001), and lower social support is linked to increased suicidal ideation (β = -.1352, p < .001). However, the indirect effect through social support is relatively small (β = .0305, LLCI = -.0078, ULCI = .0687). At C-Path, the total effect of cognitive rigidity on suicidal ideation

was significant (β = 0.8332, p <.001), as was the direct effect (β = 0.4852, p <.001), showing that cognitive rigidity directly increases suicidal ideation.

The total effect of cognitive rigidity on suicidal ideation was significant (β = -0.8332, p < .001), which suggested that individual participants with higher cognitive rigidity are more likely to experience suicidal ideation. When accounting for the mediating variables, the direct effect remained significant (β = 0.4852, p < .001), indicating that cognitive rigidity continues to have a direct influence on suicidal ideation even when resilience and social support are considered. In examining the indirect pathways, the results showed that cognitive rigidity significantly reduced resilience (β = 0.7841, p < .001), and lower resilience, in turn, was strongly associated with higher suicidal ideation (β = -0.4049, p < .001). The indirect effect through resilience was substantial (β = 0.3157), with a bootstrap confidence interval of (LLCI = 0.2543, ULCI = 0.3849), confirming its significant mediating role.

Social support also mediated the relationship but to a lesser extent. Cognitive rigidity was negatively associated with social support (β = -0.2258, p < .001), which implies that lower social support is associated with increased suicidal ideation (β = -0.1352, p < .001). However, the indirect effect through social support was relatively small (β = 0.0305), with a bootstrap confidence interval of (LLCI = -0.0078, ULCI = 0.0687). Overall, the total indirect effect (cognitive rigidity → resilience/social support → suicidal ideation) was significant, β = 0.3480, with a bootstrap confidence interval of (LLCI = 0.2743, ULCI = 0.4241), indicating that a portion of cognitive rigidity's impact on suicidal ideation operates through resilience and social support.

These findings suggested that while cognitive rigidity directly contributed to suicidal ideation, interventions aimed at strengthening resilience and enhancing social support may mitigate its negative effects. This model indicates that resilience may substantially decrease suicidal ideation, while social support appears to have no significant impact on suicidal ideation. The overall impact of cognitive rigidity on suicidal ideation was considerable, with significant direct and indirect effects mediated by resilience.

Table 7.

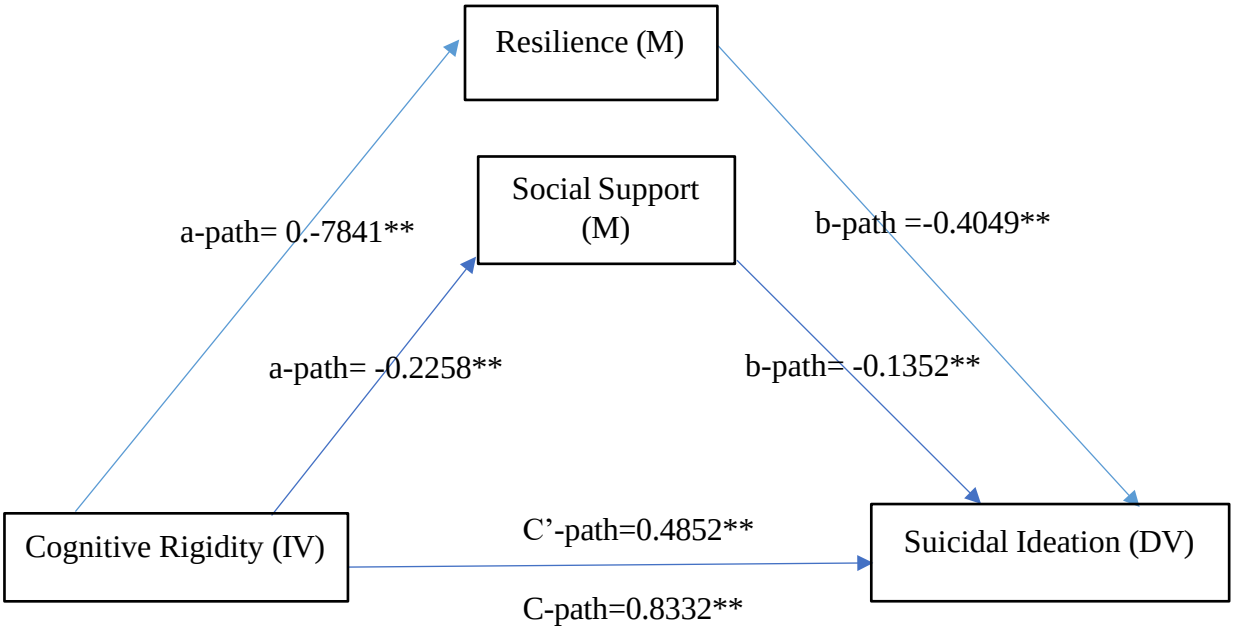
Mediation Analysis Showing Total, Direct, and Indirect Effects of Cognitive Rigidity on Suicidal Ideation

Path Analysis	Effect Type	Effect	SE (β)	T	P	LLCI	ULCI	Standardized Effect (β)
A-Path	Cognitive Rigidity to Resilience	-.7841	.0606	12.95	.001	.6650	.9032	.5496
	Cognitive Rigidity to SS	-.2258	.0189	-11.92	.001	-.2631	-.1886	-.5208
B-Path	Resilience to SI	-.4049	.0309	13.12	.001	.3442	.4656	-.4783
	SS to SI	-.1352	.0986	-3.704	.001	-.3291	.0588	-.0485
C-Path	Total Effect of Cognitive Rigidity on SI	.8332	.0044	18.95	.001	.7468	.9196	.6899
C'-Path	Direct Effect of Cognitive Rigidity on SI	.4852	.0493	9.883	.001	.3882	.5822	.4017
Indirect Effect	Total indirect effect (Cognitive Rigidity via Resilience and SS to SI)	.3480	.0377	-	-	.2743	.4241	.1827
Indirect Effect	Indirect Effect via Resilience	.3157	.0331	-	-	.2543	.3849	.2629
Indirect effect	Indirect Effect via SS	.0305	.0195	-	-	-.0078	.0687	.0253

Note. ***=p< .01; **=p< .05; SI= Suicidal Ideation; SS= Social Support; M = mediator; LLCI = bootstrap lower limit confidence interval; ULCI = bootstrap upper limit confidence interval; Level of confidence for all confidence intervals in output was 95.0000; number of bootstrap samples for bias-corrected bootstrap confidence intervals = 5,000.

Figure 13.

Showing a Mediational Role of Social Support and Resilience in the Relationship between Cognitive Rigidity and Suicidal Ideation



Note. **p < .01, *p < .05.

The results in Table 8 and Figure 14 showed the mediation analysis was significant while examining the direct, indirect, and total effects of Environmental Degradation Worry (EDW) on Suicidal Ideation (SI), with Resilience and Social Support (SS) as mediators. The a-path which is the total effect of EDW on SI was statistically significant (β = 0.5186, SE = 0.0244, t = 21.27, p < .001, 95% CI [0.4707, 0.5666]), indicating that individuals experiencing higher EDW reported increased SI. When controlling for the mediating variables, the direct effect of EDW on SI remained significant (β = 0.3160, SE = 0.0263, t = 12.03, p < .001, 95% CI [0.2644, 0.3676]), suggesting that EDW continued to show a direct influence on SI, even after accounting for resilience and social support.

Regarding the indirect pathways, the results revealed that EDW significantly influenced resilience (β = 0.5165, SE = 0.0336, t = 15.37, p < .001, 95% CI [0.4504, 0.5826]). In addition, resilience had a significant negative association with SI (β = -0.3329, SE = 0.0315, t = 10.56, p < .001, 95% CI [0.2709, 0.3649]), indicating that greater resilience was associated with lower SI. The indirect effect through resilience was

statistically significant (β = 0.1720, 95% CI [0.1318, 0.2167]), confirming its role as a significant mediator.

Similarly, EDW was negatively associated with social support (β = -0.0672, SE = 0.0126, t = -5.33, p < .001, 95% CI [-0.0919, -0.0424]), suggesting that higher EDW is associated with lower levels of social support. Furthermore, lower social support was significantly associated with higher SI (β = -0.4566, SE = 0.0841, t = -5.43, p < .001, 95% CI [-0.2620, -0.2912]). However, the indirect effect via social support was relatively small (β = 0.0307, 95% CI [-0.0168, 0.0466]), indicating a partial mediation effect.

Overall, the total indirect effect of EDW on SI via resilience and social support was statistically significant (β = 0.2026, SE = 0.0223, 95% CI [0.1609, 0.2488]), which implies that a portion of the impact of EDW on SI operated through these mediators. These findings underscored the importance of resilience and social support as potential protective factors against the negative effects of EDW on SI, implicating the role of interventions that could be aimed at strengthening these cognitive resilience and social networking resources.

Specifically, a direct effect indicated that environmental degradation concerns directly increased suicidal ideation among the studied participants. Also, indirect effects suggest that environmental degradation worry influenced suicidal ideation because of the impact of resilience and social support. Both resilience and social support significantly mediated this relationship, with resilience having a stronger mediating effect among the selected participants.

Table 8.

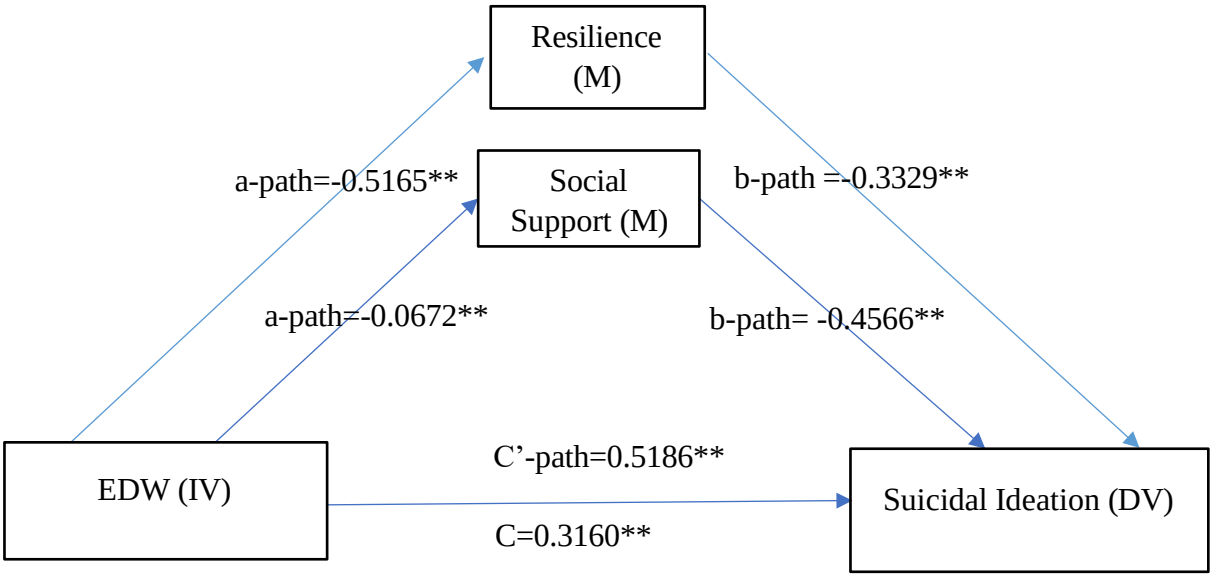
Mediation Analysis Showing Total, Direct, and Indirect Effects of Environmental Degradation Worry on Suicidal Ideation

Path Analysis	Effect Type	Effect	SE (β)	t	P	LLCI	**ULCI**	**Standardized Effect (β)**
A-Path	EDW to Resilience	-.5165	.0336	15.37	.001	.4504	.5826	-.6220
	EDW to SS	-.0672	.0126	-5.33	.001	-.0919	-.0424	-.2661
B-Path	Resilience to SI	-.3329	.0315	10.56	.001	.2709	.3649	-.3933
	SS to SI	-.4566	.0841	-5.43	.001	-.2620	-.2912	-.1639
C-Path	Total Effect of EDW on SI	.5186	.0244	21.27	.001	.4707	.5666	.7377
C'-Path	Direct Effect of EDW on SI	.3160	.0263	12.03	.001	.2644	.3676	.4495
Indirect Effect	Total indirect effect (EDW via Resilience and SS to SI)	.2026	.0223	-	-	.1609	.2488	.2882
Indirect Effect	Indirect Effect via Resilience	.1720	.0216	-	-	.1318	.2167	.2446
Indirect effect	Indirect Effect via SS	.0307	.0077	-	-	-.0168	.0466	.0436

Note. ***=p< .01; **=p< .05; SI= Suicidal Ideation; SS= Social Support; EDW = Environmental Degradation Worry; M = mediator; LLCI = bootstrap lower limit confidence interval; ULCI = bootstrap upper limit confidence interval; Level of confidence for all confidence intervals in output was 95.0000; number of bootstrap samples for bias-corrected bootstrap confidence intervals = 5,000.

Figure 14.

Showing a Mediational Role of Social Support and Resilience in the Relationship between Environmental Degradation Worry (EDW) and Suicidal Ideation



Note. **p < .01, *p < .05.

Description of the Participants in the Qualitative Study

Participants in this study are UACJ students from various institutes of UACJ who had a history of suicidal attempts, either undergraduates or postgraduates. Nine (9) suicidal survivor students from UACJ willingly participated in the study; the participants ranged in age from 18 to 30 years old. The participants' average age (($\bar{x}$) = 25.22, SD = 4.66), indicated some variability in the age distribution within the group. The participants did provide demographic information about their age and gender, but for ethical reasons, they did not disclose their departments and study programs.

The participants' sex distribution was relatively balanced, with five (5) males and four (4) females. All participants identified themselves as students of UACJ. This demographic snapshot highlights university students with bachelor's, master's, and doctorate degrees, predominantly in their early to mid-twenties, with a nearly equal gender split. The uniform student type suggests a homogeneous group in terms of their academic engagement and related experiences, which may influence their perspectives and responses in the study context.

Table 9.

Demographic information on the qualitative study participants.

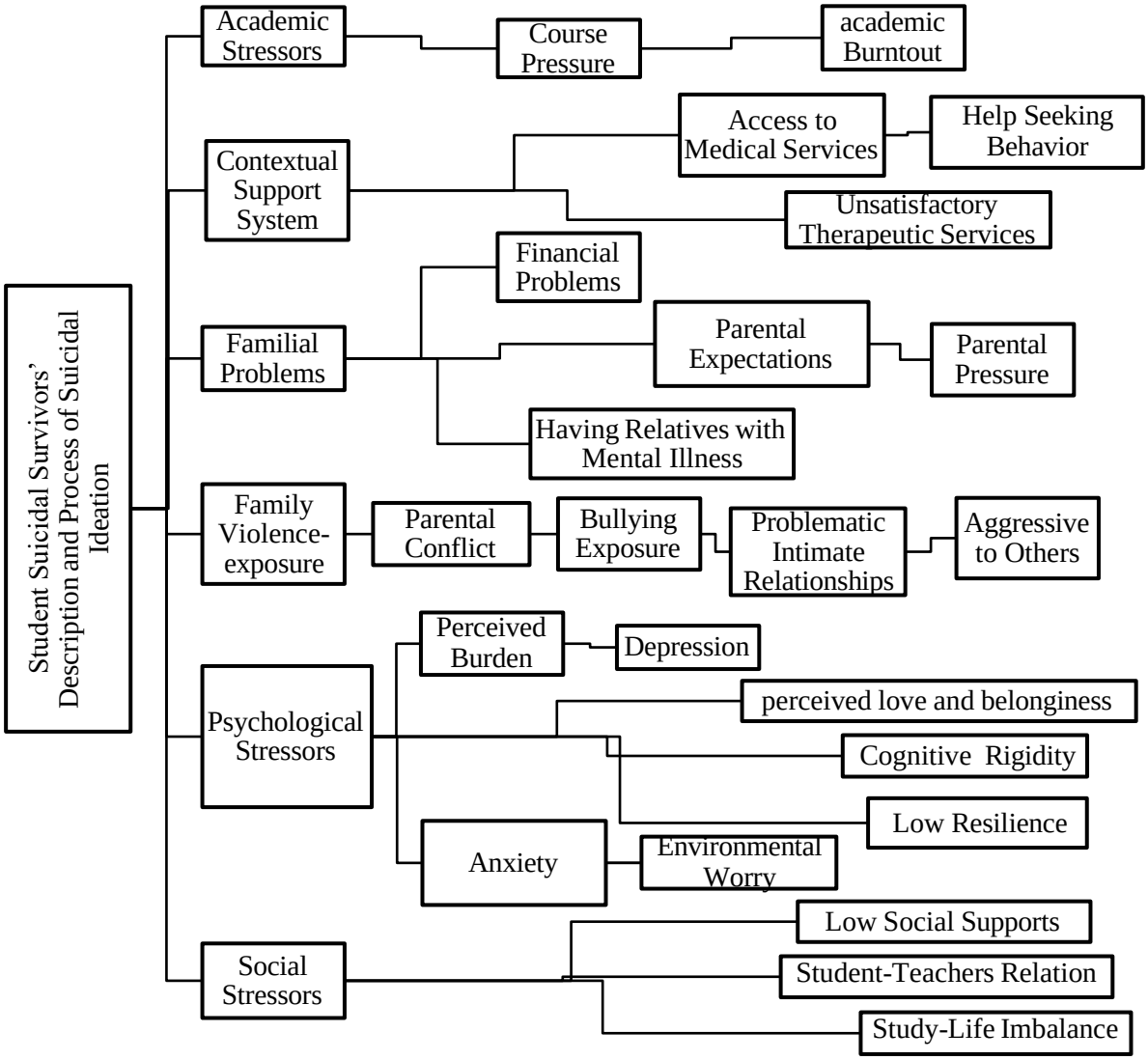
Participants Assigned Number	Age (Years)	Gender
P1	30	Male
P2	28	Female
P3	30	Female
P4	18	Male

P5	18	Male
P6	24	Male
P7	22	Female
P8	27	Female
P9	30	Male

Note. N=9, Mean of Age ($\bar{x}$)=25.22, Standard Deviation (SD)=4.66, Male=5, Female=4.

Figure 15.

Showing Qualitative Analysis Results Based on Respondents Perceptions



Note. Figure 15 depicts an Atlas.ti version 24 tree, also known as a 'coding tree' or 'code hierarchy'.

It was employed to organize and structure this qualitative data to demonstrate the visual analysis process, which categorized the various stressor factors that present suicidal ideations into multiple factors and sub-factors, as well as their interconnectivity, as revealed among the studied respondents. This diagram serves as a visual depiction of the specific expressions of variables among participants, which are determined by their experiences and interact to manifest suicidal ideations. Specifically, under psychological stressors, anxiety,

and environmental crisis worry were identified as connected; as were perceived burden and depression as reflected by the selected respondents. Under family violence exposure, parental conflict, bullying, problematic intimate relationships, and aggression toward others were interconnected sequentially, as expressed by respondents. Under familial problems, parental expectations and familial pressure were connected. In terms of the contextual support system, access to medical services and help-seeking behaviors were interlinked. The sub-dimensions of academic stressors (academic pressure and academic burnout) were interlinked with one another, as exhibited by the study respondents. Overall, this code tree revealed these factors as either directly or indirectly reflecting suicidal ideation in this study.

Specific Research Question/Objective/Hypothesis 4: The research-specific research question 4 stated *'How will the investigation of sociopsychological needs and stressors among students serve as risk and protective factors to aid preventive measures among selected UACJ students?'* While specific objective 4 of this study aimed to '*Investigate the mental health needs of student respondents to yield valuable insights into risk and protective factors that could aid in the development of intervention strategies to address stressors and reduce the risk of suicidal ideation among university students*.' So also, hypothesis 4 stated that *'investigating respondents' mental health needs will provide important insights into the risks and protective factors to facilitate the development of intervention modules aimed at addressing stressors and lowering the risk of suicidal ideation among university students.'* The researcher used specific research question 4, the study's objective 4, and hypothesis 4 to guide the data collection and content analysis of the responses from the interviewees, who are UACJ students and survivors of suicide attempts, thus:

Category 1: Academic Stressors and Suicidal Ideation among Student Survivors

Academic stressors could be referred to as factors that can increase mental distress regarding anticipated academic challenges or failure, or even the fear of the possibility of academic failure (Córdova Olivera et al., 2023). Academic stressors such as course pressure and academic burnout can manifest in many aspects of the student's environment, including school, home, peer relations, and neighborhood. These factors can indirectly present distress, reflecting anxiety and depression among university students (Barbayannis et al., 2022).

Academic stressors, as presented by respondents in describing the experience of suicidal ideation among student survivors, highlight the notable roles of academic pressure, both indirectly and directly, in suicidal ideation. The respondents also reflect on the role of academic burnout in expressing suicidal behavior as a mental health challenge**.** Respondents describe how overwhelming school pressure and responsibilities coexist with distress, decreased performance, and feelings of hopelessness, reflecting suicidal thoughts. These narratives emphasize the critical need to address academic pressures to mitigate their adverse effects on student well-being thus:

Subtheme 1: Course Pressure

Course pressure refers to the stress and anxiety experienced by students which is specifically related to the demands and expectations of a particular course (Gao, 2023). This can be due to the difficulty of the material, the teaching style, or the grading criteria. High workloads, tight deadlines, expectations from teachers and parents, and peer competition all contribute to the pressure students face to perform well academically, which in turn leads to stress (Gao, 2023).

The data gathered from In-depth Interviews (IDI) provide poignant insights into how course pressure reflected suicidal ideation among students. The narratives of the respondents underscore the multifaceted role of academic demands on their mental well-being revealing worry, stress, and distressing impressions. For example, Respondent 1 expressed self that; "I said I am going to go to work to keep myself busy. I worked in the early mornings in a pharmacy, so I was very busy: school, work, and yet have to balance up with all course responsibilities, from 2021 until now, November, practically a year, November to November" (P1/30year-old/male).

Participant 2 added; “Institute of Biomedical Sciences courses like medicine, biological sciences, vet medicine and other cause makes academic stressful and balancing academic with relationship becomes difficult between boyfriend and parent or mother feel like one is not serious” (*20* years old female*)*. These narratives illustrate the profound distress caused by some specific science courses and academic pressures, emphasizing the urgent need for mental health support and balanced workloads to alleviate the negative impacts on students' well-being.

Also, respondent 5 highlighted the intense guilt associated with course pressure as an undergraduate student. He shared, "I am not doing great at school; I do not even know if I am going to finish the undergraduate degree. That was the last thing I thought of because the feeling keeps coming like that because of the pressure I experienced as a science student." (P5/18 years old/male). This statement showed how the pressure to succeed academically leads to a persistent feeling of failure and guilt. Also, there is a recurring sense of inadequacy, which suggests relentless academic pressure not only reflects this respondent's current performance but also erodes his confidence and self-worth identifying possible stressors of suicidal ideation.

Another instance is for Participant 7, who revealed the overwhelming nature of course pressure and its role in fostering uncertainty and regret about her educational choices. She said, "Is this really what I wanted to study? The pressure from the course was too much. I feel like I haven't learned anything; I feel like no, I have not performed to the expected tasks and I see it as wasted a lot of time" (20-year-old female). Reflecting on her illustration showed how academic pressure had led her to a broader existential crisis, where the intense demands of the course caused her to doubt her decisions and the value of her efforts. All these might amplify her perceived waste of time and amplify feelings of despair and helplessness, critical components of suicidal ideation.

In addition, another interviewee, Respondent 8, provides a detailed account of how the increasing difficulty of his engineering courses might have encouraged a severe decline in his academic performance; thus, "It was something very difficult when I began to see that my grades dropped drastically... due to a lack of attention and a lack of meeting up with

submissions and requirements" (P8/27 years old/female). The overwhelming nature of the coursework of engineering and the pressure of responsibilities, according to him, might have encouraged a decline in his self-confidence and thoughts regarding his academic stand, prompting him to express a distressing statement: "I don't feel comfortable, and so and so." This narrative highlights how the relentless pressure to meet academic of certain academic course standards can lead to significant emotional and psychological distress, pushing students towards considering suicide as an escape from their overwhelming circumstances.

Therefore, the theme of course pressure in this study emerged as a critical factor reflecting suicidal ideation among students. The respondents' experiences illustrated how the relentless demands of academic performance shape the feelings of guilt, uncertainty, regret, and overwhelming distress coexisted to reflecting the feeling of suicidal thoughts. These emotions seem to contribute to the development of suicidal thoughts, underscoring the need for educational institutions to recognize and address the mental health challenges posed by academic pressure. The respondents described specific course pressure as a reflecting factor to the distress that reflected academic burnout, which in turn coexisted with the development of suicidal thoughts among the studied participants.

Subtheme2: Academic Burnout

Academic burnout refers to a negative emotional, physical, and psychological response to extended study that results in tiredness, frustration, a lack of desire, and decreased competence in school activities or tasks (Gao, 2023). It is a condition of persistent stress caused by emotional and physical tiredness as well as cynicism and a diminished sense of academic efficacy. It can seriously influence students' performance and psychological well-being (Madigan et al., 2021); it can lower academic performance, which would result in worse grades and less motivation which can inspire suicidal thoughts (D'Eon et al., 2021).

The data gathered from the IDI in this study showed the significant impact of academic workload on suicidal ideation among college students. The respondents' narratives provide a detailed examination of how excessive academic demands are reflected in expressing experience of severe mental health issues. For example, Respondent 3 revealed

how the overwhelming school workload began to affect her performance and interpersonal relationships, which made it distressing. She stated, "This whole situation of workload in school started to affect me a lot at work because my performance started to drop. I am fed up and exhausted coping with school workload because I became less tolerant than I already was; that is, I changed a lot in that aspect and thought of killing myself" (P3/30 years old/female). This account reveals how the intense academic workload not only diminished her work performance but also exacerbated her emotional exhaustion and irritability, leading to thoughts of suicide as an escape from the relentless demands.

Also, participant 3 described the immense stress and headaches caused by his inability to manage school tasks. The respondent expresses, "It's quite challenging to comprehend... I am unable to meet up with the tasks of school, causing a lot of stress and headaches, and the overwhelming nature of university school workload is a lot of distress to me" (a 23-year-old male). This respondent's narrative highlighted how the cumulative effect of his academic workload might have encouraged his burnout, which in turn reflected suicidal ideation as he struggled to meet the expectations placed upon him.

In addition, respondent 8 provided insight into how the excessive academic workload reflected in the drastic drop in his grades and self-esteem, causing a distressing situation. He reflected, "It was something very difficult when I began to see that my grades dropped drastically due to too much time spent, workload from school, and schedules. My performance fell drastically, and I may fail or drop out, so I was afraid and wished I was gone" (P8/27 years old/female). His experience underscores how the course pressure due to workload and exhaustion and the inability to cope with an overwhelming workload can lead to a severe decline in academic performance, fostering a sense of failure which might coexist with the suicidal thoughts in this respondent.

In the same manner, respondent 6 shared her struggles with the numerous workloads assigned to her as a higher education student. She said, "It's quite challenging to comprehend the numerous workloads assigned to me... I also learned to work independently, but it was not working. During primary school, I could not work independently but my mother did help me, but now the demand has changed because my mother did help me, and now again, I struggled with homework and with a lot of tiresomeness" (P6/24 years old/male). This

narrative indicates that the ongoing struggle with academic tasks from an early age has compounded over time, leading to chronic stress and an inability to manage the current academic demands effectively.

The theme of academic pressure seems to interact with academic burnout as academic stressors as expressed by respondents and reflected on by the researcher, which emerged as critical factors presenting reflection for suicidal ideation among college students. The findings revealed that excessive academic pressures might have coexisted with emotional exhaustion (burnout), stress, burnout, and a profound sense of failure. These factors seem to play some roles in the development of suicidal thoughts, emphasizing the urgent need for educational institutions to address the mental health impacts of academic workload, pressure, and burnout.

Category 2: Contextual Support System (CSS) and Suicidal Ideation among students.

In this category (2), the focus is on examining the complex phenomenon of suicidal ideation among students about how imperative it is to consider the role of contextual support systems (CSS). These systems encompass the availability and quality of mental health services, the effectiveness of help-seeking behaviors, and the overall satisfaction with therapeutic interventions (Bomysoad et al., 2024; Oguntayo et al., 2022). The CSS plays a crucial role in either mitigating or exacerbating the psychological distress that students experience under academic and personal pressures. Understanding the strengths and weaknesses of these support systems provides valuable insights into how institutional and societal factors influence mental well-being and suicidal tendencies among students (Bomysoad et al., 2024; Oguntayo et al., 2022). This category delves into the barriers to accessing mental health services, the proactive measures students take to seek help, and their satisfaction with the support received, highlighting the critical need for improved and accessible mental health care infrastructure.

Subtheme 1: Access to Mental Health Services (AMS)

Access to Mental Health Services (AMS) refers to an individual's ability to obtain and use mental health care when needed, which includes several key components: (i) The availability of providers. This means the availability of mental health professionals, including therapists, counselors, and psychiatrists, should be sufficient to meet the demand. (ii) Affordability. This ensures that mental health services are financially accessible, which often includes insurance coverage and affordable out-of-pocket costs. (iii) Geographical accessibility. This involves making sure that services are accessible to those who require them, particularly in rural and underserved areas. (iv). Timeliness: This entails reducing appointment wait times and ensuring that care is available when needed. (v). Cultural Competence. This involves providing care that is respectful of and tailored to the cultural, linguistic, and social needs of diverse populations (Carmona-Huerta et al., 2021; Mental Health America, 2023).

The narrative data extracted from IDI from student survivors of suicidal behavior highlights the contextual support factors of AMS that either aid or perpetuate their suicidal ideation. This reveals that barriers to accessing mental health services, especially in Mexico, could shape the persistence of suicidal ideation among college students: Respondent 2 highlighted the scarcity of services: "My experience with no psychological help while my parents blocked me makes me aware that virtual or internet psychological intervention will better mitigate suicidal completion" (P2/28 years old/female). This indicates a pressing need for alternative and more accessible mental health interventions, such as virtual counseling services, to overcome these barriers.

Respondent 1, illustrated the systemic inefficiencies within mental health care systems due to a lack of integrated services: "In the first therapy I had, they realized that I had this suicidal ideation... Then the psychologist referred me to a psychiatrist" (P1/30 years old/male). Also, the delay in receiving collaborative care within the same unit highlights the fragmentation in mental health services. For example, respondent 8's experience further underscores the accessibility issues thus; I would like to go to a psychologist, but I don’t know who it is... I required help in February, but in 2018, it was still not accessible" (P8/27 years old/female).

The inability to access timely professional help exacerbates students' mental distress. Another respondent 8, mentions waiting months for a psychiatric appointment; "Appointments with the psychiatrist take a long time. From August until the end of October, I was at home" (P2/27 years old/female). These barriers indicate a critical need for systemic improvements to ensure timely and accessible mental health care for students.

According to respondents, the emerging theme from the data category highlights systemic barriers to mental health services as a critical factor influencing the persistence of suicidal ideation among college students in Mexico. Respondents emphasized the lack of accessible psychological and psychiatric support. Limited availability of services, long waiting times for appointments, and delays in receiving collaborative care contribute to worsening mental health conditions. The data revealed inefficiencies within the mental health care system, where students experience disjointed care between psychologists and psychiatrists, resulting in delayed interventions and exacerbation of suicidal ideation. Therefore, respondents advocate for virtual or internet-based psychological interventions as a potential solution to overcome these access barriers, offering a more immediate and flexible approach to support students in crisis.

Subtheme 2: Help-Seeking Behavior (HSB)

Studies have defined "help-seeking behavior" as a problem-focused, planned behavior that involves interpersonal interaction with a chosen healthcare professional and occasionally involves asking for informal help from family and friends (Adams et al., 2022; Doll, et al., 2021). As gathered in this study, respondents despite the significant barriers, still demonstrated proactive help-seeking behaviors. For example, a participant, relied on social support during a crisis while saying. "I spent five hours contemplating it before speaking to a friend." He took me out of there; he talked to my aunt and grandmother″ (Respondent 1, P1/30 years old/male). This emphasizes the importance of social networks in crisis intervention.

So also, respondent *2*, expressed a persistent desire for help despite systemic obstacles. "The thought of self-destruction persists, and I yearn for assistance. They continued to reject my request to seek help from a psychologist" (P2/28 years old/female). This highlights the critical need for accessible psychological support. In the same way, respondent 4, sought help after a suicide attempt, indicating the urgency of continuous support. "I yearn for assistance to prevent my death, yet the desire persists" (23-year-old male). Similarly, respondent 5, reached out during a life-threatening crisis: "I started shouting for help... I need you to help me" (P5/18 years old/male).

However, some help-seeking attempts were unsuccessful. Respondent 9, received harmful advice from a non-professional support group, as quoted; "Instead of assisting, they gave me instructions on how to complete the task; it was not a professional help group" (P9/30-year-old/male). This underscores the importance of professional and appropriate support systems in seeking help.

The content analysis of the data gathered on help-seeking behavior among suicidal survivor students revealed critical insights into their strategies and challenges when facing suicidal ideation. Despite significant barriers, such as systemic inefficiencies and stigmatization, students exhibited commendable persistence in seeking support amidst barriers. Social networks emerge as crucial lifelines during crises, underscoring the importance of accessible and reliable community support. However, the variability in success and the occasional encounter with non-professional and harmful advice highlights an urgent need for structured, professional mental health interventions. This illustrates why increasing and improving the availability and quality of mental health services is critical to ensuring timely and effective support for students in distress, as well as the mitigation of suicidal attempts or ideation, as the case may be.

Subtheme 3: Unsatisfaction with Therapeutic Services (UTS)

The client's positive perception of their overall experience with the treatment, as well as the extent to which the therapy meets their expectations and requirements, are the primary factors influencing satisfaction with therapeutic services (Oladele et al., 2024). This satisfaction is contingent on numerous critical variables. According to Oladele et al. (2024), meeting client expectations guarantees that the therapy is consistent with the client's objectives, thereby establishing a positive perception. Trust and collaboration require the therapeutic alliance or therapist-client relationship. Treatment outcomes directly influence satisfaction, demonstrating the therapy's effectiveness in addressing the client's concerns.

Furthermore, accessibility and convenience are critical, as clients are more content when services are easily accessible. Clients' engagement and satisfaction are contingent upon the lucidity and helpfulness of the therapist's interactions during the treatment process, which is characterized by communication and support. These components collectively determine the extent to which clients perceive the fulfillment of their therapeutic requirements and their overall satisfaction with the services provided (Fernandes et al., 2020). Satisfaction with mental health services was generally low among respondents, indicating a need for better-quality care. A respondent, reported negative experiences with therapists thus: "I have encountered extremely poor therapists. I stopped going" (respondent 1, a P1/30 years old/male). This kind of experiences can deter individuals from continuing therapy which could perpetuate suicidal behavior in individuals.

Also, Respondent 9 has this to share while struggling with managing his medication. "The first psychiatrist didn't work for me. We went to see another psychiatrist the following week" (p9/30-year-old/male). The initial overmedication and subsequent change in psychiatrists reflect inconsistent care. In addition, Respondent 4, expressed his disappointment with the lack of supportive responses from his psychologist friends. "My psychologist friends are like, well, it’s your decision. We are here in case you need us" (23-year-old male). This passive support approach might have encouraged providing the necessary intervention, highlighting the need for more proactive and supportive therapeutic services among individuals with suicidal ideations in the school population.

The analysis revealed that the contextual support system for students facing suicidal ideation is inadequate, with significant barriers to accessing mental health services, challenges in help-seeking behavior, and low satisfaction with therapeutic services. These findings emphasize the urgent need for systemic improvements in mental health care, increased accessibility to services, and higher-quality, more consistent support to effectively address the mental well-being of college students in Mexico.

Category 3: Familial Problems and Suicidal Ideation

Scholarly studies have found that familial problems significantly influence suicidal ideation among students, highlighting the profound impact of the home environment and family dynamics on mental health (Alvarez-Subiela et al., 2022; Wang et al., 2022). This category examines how various familial factors probably coexist with the psychological distress experienced by students, potentially leading to suicidal thoughts and behaviors. Subtheme 1, Family Financial Issues, delves into the stress and anxiety caused by family economic hardships, which can predispose students to intense distress. Subtheme 2, parental pressure, investigates demands placed on students by their parents, often resulting in feelings of inadequacy and heightened stress.

Subtheme 3, prenatal expectation, considers the psychological impact of expectations set before individuals by their parents, which later impact their self-perception and mental health. Subtheme 4, which focuses on having family or friends with mental illness, explores how exposure to mental illness within close relationships influences students' mental well-being and coping mechanisms. By analyzing this category, this study aims to understand the multifaceted ways in which familial issues seem to reflect in presenting suicidal ideation, providing insights for targeted interventions and support strategies.

Subtheme 1: Family Financial Issues

The findings from the IDI found that familial or personal financial constraints could predispose individuals to contemplate suicide especially when one cannot cope. The narratives from Respondents 1 and 5 illustrate the profound effects of economic hardship on mental health. Respondent 1 recounted the financial instability his family faced following

the 2008 economic crisis. His father, an engineer, lost his job, leading to a period of significant tension and uncertainty.

The financial difficulties forced the family to halt their home remodeling and move frequently. This instability disrupted the family's sense of security and continuity. Additionally, the father's decision to move to Monterrey for work, leaving the family behind, likely compounded feelings of abandonment and isolation. These factors collectively coexisted with stressful environments, creating fertile ground for psychological distress. "There was a significant economic crisis, resulting in numerous layoffs. My father, an engineer, lost his job, leading to a period of tension and uncertainty. We were remodeling our house and moving frequently" (P1/30 years old/male participant).

This narrative underscores how financial strain can disrupt family dynamics and stability, leading to a heightened sense of insecurity and psychological strain. The lack of a stable home environment and the absence of a parental figure due to job-related relocation are critical stressors that can lead to feelings of helplessness and suicidal thoughts.

For instance, expression from respondent 5, a young male undergraduate revealed the financial strain and its effect on his self-worth and dependency-causing self-harm thoughts: "I don't ask my parents for money, and I don't eat in school; so many things like this have happened lately, I no longer want to be here. I felt a deep sense of guilt about numerous situations, and I wished to leave" (P5/18 years old/male). The overwhelming sense of being a burden, combined with the loss of independence and self-worth due to unemployment, leads to significant emotional distress. This respondent's experience highlights how financial strain not only affects basic needs but also undermines self-esteem and exacerbates feelings of guilt and inadequacy, which are potent precursors to suicidal ideation.

These findings suggest that economic hardship serves as a significant precursor to suicidal ideation, particularly due to its impact on family dynamics, self-worth, and psychological well-being. Financial instability, triggered by events such as job loss during the economic crisis, disrupted the family's home life, leading to frequent relocations and feelings of abandonment. The absence of a key parental figure and the uncertainty of financial security created a stressful environment, compounding psychological distress. Also, financial

strain can lead to feelings of dependency and low self-esteem, exacerbating emotional distress. The inability to meet basic needs, such as affording food at school, created a sense of guilt and inadequacy, which fueled thoughts of self-harm and a desire to escape. These findings suggest that economic hardship not only impacts material stability but also profoundly affects psychological well-being, resulting in a loss of security, heightened emotional stress, and a sense of helplessness. These factors contribute significantly to suicidal ideation among individuals facing financial constraints. Financial difficulties could contribute to mental health, fostering conditions that lead to psychological strain and suicidal thoughts.

Subtheme 2: Parental Pressure

This research also found that parental pressure is a critical factor that could contribute to the explanation of students' psychological distress, which is comorbid with suicidal thoughts. For example, respondent 1, a young male participant, recounted the overwhelming responsibilities he assumed due to parental neglect and pressure to care for his younger ones: “It was outright negligence. I had to assume the roles of father and mother for my brothers. I was 12 years old” (P1/30 years old/male).

Also, another indicator was shown thus by respondent 3, the young adult female college student described the resentment and anger stemming from excessive responsibilities and parental expectations during her upbringing as follows: “By the time I was 8 or 9 years old, I cleaned the house from head to toe. I grew up enraged with life” (P3/30 years old/female). In addition, respondent 4, a young female in her 20s, emphasized the pressure put on her to help her mother care for her siblings: “They expected me to and pressured me to help cook and do home care for my brothers” (23-year-old male). These accounts illustrate how parental pressure, through neglect and excessive demands, creates significant emotional and psychological strain on students, which could probably be contributing to their suicidal ideation.

The findings emphasized the impact of parental pressure and excessive expectations on students' mental health, contributing to psychological distress and suicidal ideation. Two critical factors emerge parental neglect and responsibility overload, where students assume

adult roles and responsibilities at a young age, leading to emotional strain and long-term psychological effects. Overbearing expectations from parents, create intense pressure to meet family standards and foster feelings of inadequacy, fear of failure, and emotional breakdowns. These factors collectively highlight how parental dynamics and high expectations can severely affect students' emotional well-being, potentially escalating into suicidal ideation.

Subtheme 3: Parental Expectations

Excessive familial expectations towards a child while growing up and during youthful age showed to be probably reflecting students' distress and suicidal thoughts. For example, respondent 2, a young adult postgraduate female student, discussed the distress she witnessed and her family's fear of failure or wrong impressions towards her: "...expectation. Expectation: I want to work with children and the less privilege, but they have this terrible fear of failure towards me" (P2/28 years old/female). In the same way, respondent 6, a male undergraduate, expressed his ordeal and described the pressure witnessed to meet family expectations and the resulting distress when he felt he failed: "I felt that bad and distressed because I recognized that I was their role model... I succumbed to distress and experienced a deep emotional breakdown" (P3/24 years old/male).

Moreso, respondent 9, a male student, recounted the overwhelming pressure to become a doctor: "I always got excellent grades. They always told me, "Ah, you are going to be a doctor...if this does not work at the end, I always think… so it was like carrying a heavy weight and being alone" (P9/30-year-old/male). These narratives highlight the significant impact of overrated prenatal expectations on students' mental health, often leading to feelings of inadequacy and fear of failure and if it failed, it could indirectly interlink with distress that might encourage suicidal ideations.

Subtheme 4: Having Family or Friends with Mental Illness

Having family or friends with mental illness, a completed suicidal history, or suicidal tendencies greatly affects students' mental health and increases their susceptibility to suicidal ideation. For instance, respondent 1, a male participant in his early 30s, recounted the

traumatic impact of a loved one's suicide: “While my dad was in the hospital, I received the news that she committed suicide. It was something horrible” (P1/30 years old/male). Furthermore, respondent 5 showed the added stress of dealing with his father's illness: “My dad got sick; he was also on disability for almost a year… this affect and cause me to feel worthless” (P5/18 years old/male). His parents' illness caused him a lot of distress and this sickness could probably be one of the distressing factors reflective of his suicidal thoughts.

Also, the findings showed a connection between suicidal thoughts and having a friend or intimate partner who took their own life. For instance, respondent 6, a youth male in his 202, shared the emotional turmoil caused by a friend’s tragic fate: “I had that bad news that the girl I am dating died because in 2023 there was an event in her place where she lived, and it killed everyone and her It is difficult to forget the pains” (P6/24 years old/male). Another instance was shown; for example, respondent 9, who was in his late 20s, mentioned the impact of a friend's suicide on his mental state: “It was in that summer of 2020 when my friend committed suicide. … life seems meaningless hence” (p9/30-year-old/male). These responses indicate that exposure to mental illness and suicidal behavior within close relationships significantly affects students' mental health, increasing their risk of experiencing suicidal ideation.

This finding's central theme is the emotional and psychological impact of exposure to mental illness and suicide in close relationships on students. The research highlights that having family members or friends who suffer from mental illness, complete suicide, or display suicidal tendencies contributes significantly to students' own mental health deterioration and susceptibility to suicidal ideation. This exposure may not only exacerbate emotional distress but also increase their feelings of hopelessness, helplessness, and worthlessness, intensifying their risk of contemplating suicide.

From this category, the content analysis and thematic exploration, showed that family financial issues, parental pressure, prenatal expectations, and having family or friends with mental illness reflected students’ mental health could probably play a role in suicidal ideation. Financial instability creates emotional burdens like guilt and dependency. Parental neglect and excessive demands lead to psychological distress and resentment. Prenatal expectations foster feelings of inadequacy and fear of failure. Additionally, the presence of

mental illness or suicidal tendencies in close relationships could exacerbates students' mental health challenges, highlighting the need for supportive interventions and mental health resources.

Category 4. Interpersonal Violence (IV)

The World Health Organization (2024) defines interpersonal violence as acts of violence between individuals or small groups of individuals, including rape, sexual assault, physical and emotional abuse, mistreatment of children and the elderly, and other forms of familial violence in any environment. The subcategory in this category include; family violence exposure, parental conflict, bullying exposure, problematic intimate relationship and aggression to others.

Subtheme 1: Family violence exposure (FV)

Family violence exposure (FV) is defined as experiencing direct or indirect violence, witnessing infliction, or encountering verbal, physical, emotional, and psychological violence from parents, teachers, siblings, relatives, or colleagues in school or from other people in other environments (Ferrara et al., 2021). Nearly all the participants reported having witnessed one or more instances of family violence. Respondent 1 reported, "Indeed, numerous family traumas have contributed to my ordeals, as have similar experiences in school. However, I hesitate to disclose these experiences because my parents' busy schedules and their frequent outbursts have undermined my trust in them. Yes, I did feel as though something worse was about to happen to me" (P1/30 years old/male). This illustrates a lack of a supportive family environment and exposure to parental aggression, leading to a sense of instability and mistrust. This, in turn, may have shape to chronic stress and anxiety, thereby increasing the risk of suicidal thoughts.

According to Respondent 3, "I don't have many fond memories from my childhood, and the ones I do have are mostly negative. I am the eldest of three siblings; I am a year older than my younger brother, and we grew up together. The other two brothers are roughly 6 and 8 years younger, respectively. My childhood was filled with many negative experiences, including beatings, yelling, and abuse. I encountered numerous unfavorable situations while

growing up and never received adequate love from my parents “(P3/30 years old/female). The trauma from these negative experiences could lead to long-term psychological damage, including low self-esteem, depression, and a propensity towards suicidal ideation as a means of escaping the persistent emotional pain.

Respondent 4 also stated, “As a child and an adult, I took on independent responsibilities such as cleaning the house and caring for my siblings when my mother left home. Therefore, I felt that my childhood was less favorable than that of my siblings, as my parents might have encouraged instill in me the values of self-worth, self-esteem, or acknowledging my own worth. That is to say, I didn't feel important to my parents because, as a child, my mother was always frustrated with me and frequently insulted me. She would accuse me of being stupid and ugly, which didn't help either” (23-year-old male). This experience could probably contribute to feelings of inadequacy and worthlessness, further exacerbating mental health issues and the potential for suicidal thoughts as a means of seeking relief from the relentless negative reinforcement.

Respondent 5 reported that my mother's typical saying is, "Do you want to cry?" I will provide you with reasons to cry today, which is why I am once again apprehensive about how they will react and cause me to cry, become angry, or shout at me. They are obstructing your ability to express yourself and engage in open discussion, just as my mother does when she becomes angry. So, when I am aware that she is angry—that is, even if anything bothers me—I better endure it to avoid her anger and hitting. You simply need to remain silent and refrain from expressing yourself. You can't express your hurt and thoughts to her, so it's more about that than anything else" (P5/18 years old/male).

Participants recounted experiences of verbal, physical, emotional, and psychological abuse from parents, siblings, and other family members. These incidents may have created a hostile and unsupportive environment, which undermined trust and fueled chronic stress, anxiety, and a sense of inadequacy. The lack of emotional support and consistent negative reinforcement experienced by the students in their formative years contributed to long-term psychological damage, such as low self-esteem, feelings of worthlessness, and emotional isolation. These factors collectively heightened their risk of suicidal thoughts, as they viewed suicide as an escape from persistent emotional pain and familial trauma.

Subtheme 2: Parental Conflict (PC)

This subtheme of parental conflict (PC) in this study includes disputes between parents that create a hostile environment for the children (Beckmann, 2020). The content analysis showed that parental conflicts reflected a lot to suicidal thoughts among participants. For instance, respondent 1, mentioned, “Though my dad was super abusive……This might have encouraged their separation, the divorce of my parents does not only affect me, it affected them, they took their way but the scarce remains on me and I feel life is meaningless” (P1/30years old/male). The respondent emphasized that the abuse and parental separation left lasting scars, contributing to a pervasive sense of meaninglessness. The trauma from an abusive parent, coupled with the emotional turmoil of a family breakup, often leads to severe emotional distress and a sense of abandonment, which can foster suicidal thoughts.

Moreover, Respondent 5 stated, "Whenever my mother and father fought, my mother would say, 'Do you see what you did? You are the source of my conflict with your father. On one occasion, I overheard her and her friends discussing a man she was dating, and I realized that one of the men was her boyfriend. At the time, the man's child was a school friend of mine, so I informed him about the incident. Maybe the guy told his mother at home, but I didn't consider it a negative thing at the time. As a result, my father learned of the infidelity, and my mother blamed me for causing friction between them. I abhor it; it makes me dislike her, and I wish I wasn't her son. Life for me has become exhausting" (P/18 years old/male).

Respondent 9 presented another indictor, stating, "I attempted suicide during a period when my parents were not together." Well, I was in the house that my dad bought for my mom after the divorce. I was fed up with life, and their separation affected me a lot” (p9/30 years old/male). The narrative of this respondent underscores the emotional trauma resulting from unjustly assigning blame for parental conflicts. The mother's infidelity and subsequent blame placed on the child deepen feelings of resentment and self-loathing. Such emotional abuse erodes self-esteem and can make life seem unbearably exhausting, heightening the risk of suicidal ideation as an escape from the emotional pain.

According to these findings, the separation of parents is shown to be a significant stressor, with the respondent feeling overwhelmed and hopeless. The instability and

emotional distress resulting from the parental split contribute to a sense of despair, often leading to suicidal attempts as a means to escape the unresolved emotional turmoil.

Subtheme 3: Bullying-exposure (BE)

Bullying exposure (BE) involves using power imbalances to inflict intimidation or harassment on others, either from family members, teachers, others, or peers (Mishna et al., 2021). The respondent reported some instances of bullying that impacted their psychological wellbeing. In the case of respondent 1, he said, “Yes, I went through a lot of bullying. This has significantly impacted my emotions, causing me to either harm myself or withdraw from life” (P1/30 years old/male).

Also, respondent 3 shared her experience with bullying history: “My mother's friend had a habit of boasting about her daughters' outstanding grades, excellent behavior, and beauty, which made me feel like a bad person. She also enjoyed humiliating me and bullying me. I always believed that my mother would have desired a daughter like hers. This was evident when the lady made comments such as, "Oh, you are already very chubby; it is that the other person made comments that were derogatory or negative towards me," but my mother did nothing. This left me wondering, Well, why? I recall numerous occasions when I went to take a bath, crying and questioning why my mother didn't love me. I am already suicidal, and I have harbored suicidal thoughts or ideas since I was a child. Therefore, it's either because I'm no longer interested in being here or because my mother is constantly hitting me” (P3/30 years old/female). This qualitative data from Respondent 3 provides a rich source for analyzing the impact of bullying on suicidal ideations, particularly through the lens of identifying bullying as risk factor of mental distress.

Another respondent's data analysis, which incorporates direct psychological mechanisms and social dynamics at play, Participants 7 expression revealed that “ There was a moment when I started to feel unloved by my family and the world, and I wanted to leave. Then, as I grew up, the situation worsened as I recalled numerous instances of bullying, I had witnessed in the past. For example, in primary school, my classmates and my mother’s friends treated a chubby girl as if I were ugly. A woman once told me, "You're ugly and this and you're that, but my daughters are beautiful and intelligent, so it's like that." I asked

myself, "Why does my mother allow them to tell me these things?" I think that's why I developed very low self-esteem throughout my life, because I'm not a confident person. ……. I don't know what's going on with my brain because I don't remember the good things, but those bad memories make me think more about all the bad things that happened to me and the bullying I witnessed. Most of the time, it makes me feel like I'm worthless and that I should just die" (20-year-old female).

The key inference emerging from this data is the psychological toll of bullying exposure (BE) on respondents, particularly its contribution to suicidal ideation. Respondents highlighted various forms of bullying, including verbal abuse, social humiliation, and neglect by authority figures, which fostered feelings of low self-worth, inadequacy, and emotional isolation. These experiences created long-lasting emotional scars that shaped negative self-perceptions, heightened anxiety, and depression. The constant comparison with others, coupled with the lack of support from family members or other authority figures, left participants feeling worthless and unloved, making them more prone to suicidal thoughts as a form of escape from their ongoing psychological suffering.

Subtheme 3: Problematic Intimate Violence (PIV)

The problematic intimate violence (PIV) is referring to as any forms of violence within close or intimate relationships (Beckmann, 2020). The analysis of this IDI qualitative data highlights how problematic relationships could probably trigger suicidal ideations through various mechanisms. The main findings are presented thus: Respondent 2 expressed profound emotional agony upon discovering that a partner was abusive: "I can't imagine how such a person could also disappoint me until I discover he is abusive. This experience caused me agony, leading me to believe that I endured harsher treatment than anyone else" (P2/28 years old/female). Respondent 2 expressed his experience with problematic relationships, saying, "I identify with a person I recently met who ended her relationship with her boyfriend, and I acknowledge the agony. I can't imagine how such a person could also disappoint me until I discover he is abusive" (P2/28 years old/female). This experience caused me agony, leading me to believe that I endured harsher treatment than anyone else, yet nothing worked. I began to draw a correlation between my past relationship, my own behavior, and the treatment I received from my partners.

Also, respondent 3 described the overwhelming sense of loss and emotional dependency following a breakup: "You cannot imagine what it's like to cling to or love someone so deeply that they become everything, only to suddenly lose them and find yourself unsure of what to do. The breakup left her feeling frustrated and alone, and with her mind filled with intrusive suicidal thoughts" (P3/30 years old/female). The loss of a deeply loved partner created a void that might have encouraged significant psychological distress, heightening the risk of suicidal ideation as the respondent struggling to find meaning and stability in their life.

Respondent 4 shared this, "so… I end with the guy but we continue seeing, he keeps going to my house, things keep happening as if we were still dating but without the title of courtship, at that time it was more or less like in June... about 2 or 3 months later I found out that he already has a girlfriend , girlfriend, then I was like: I mean, you already have a relationship after we lasted almost 3 years together, I mean, it was like all that time was thrown away by that you already have a new person, a new partner, and I didn't understand why he is deceptive after several sex so, I was down and I cannot imagine been a life anymore because I don't know where to start again, I already lost it, that is, this is already over" (23-year-old male). The abrupt end of a long-term relationship, followed by the partner's quick transition to a new relationship, left the respondent feeling confused and without closure. This lack of resolution might have exacerbated feelings of despair and helplessness that possibly encourage suicidal ideations. The respondent's narrative underscores the critical impact of unresolved relationship endings on mental health.

Respondent 5 also recounted an experience that might have encouraged distress within a romantic relationship. "Then, we encounter the challenge of effectively communicating our preferences and dislikes, as well as our activities with each other and other friends. I believe my relationship with him has been the best, but he is too jealous of my male friends. He ended the relationship because I went out with a friend without him, and the moment I realized he had made the decision to leave, he had already found another partner. It began with the realization that I have nothing left and that the pain is unbearable. Then, I overdosed myself with pills in an attempt to fall asleep and wake no more, but it proved to be ineffective, causing me to sleep for days" (P5/18 years old/male). The

respondent's subsequent attempt to commit suicidal with the emotional pain by taking over drugged herself highlights the severity of her distress. The inability to effectively communicate and the constructive manage jealousy might have created the urge or a sense of abandonment and hopelessness, that could probably reflect the respondent tendency to develop suicidal thoughts as a way to escape the unbearable emotional pain.

Drawing inferences from these findings, the content exploratory analysis of the respondents' experiences revealed recurring patterns in problematic relationships that could likely suicidal ideations. These include betrayal, and the discovery of a partner's abusive behavior might have encouraged significant emotional agony and a sense of betrayal, which could probably increase tendency for suicidal ideation. Also, the detrimental effects of jealousy and poor communication resulted in abandonment feelings that could shape participants' suicidal thoughts. These factors lead to emotional distress, feelings of worthlessness, and hopelessness, all of which could probably triggers for suicidal thoughts.

Subtheme 4: Aggressive to Others

Aggression toward others (ATO) in this study mean exhibition of anger or aggressive behaviors toward anybody within and outside the family.

Responses from participant 3 highlighted the relationship between aggressive behavior and the need for parental love: "I felt compelled and this might have encouraged act aggressively towards others or inflict harm on myself. When this behavior might have encouraged frequent outbursts at home, resulting in my parents biting or yelling at me, I adopted an aggressive demeanor at college to reassure my mother that I needed their love." This indicates that aggression was used as a coping mechanism to gain attention and love, which paradoxically resulted in further emotional distress and suicidal thoughts.

Respondent 4 said this: "I experienced a mishap with a manager—specifically, a girl in charge of the finance area—due to their accustomed approach, which didn't provide any assistance. I feel that because of my behavior, I cannot control my emotions because pushing people away and not all people tolerated my way of being was like having different friends but not being stable with them, having very few because I fought with them, it was like all

that, and I feel that that was what influenced my self-harm to leave the creative world as I am fed up" (23-year-old male). This respondent's inability to regulate emotions might have encouraged impulsive anger and an inability to maintain stable relationships, which might have encouraged social isolation and self-harm, contributing to suicidal ideation.

Respondent 5 shared, "I am aggressive; I was very explosive, but also during my childhood, that is, I don't justify it, but I experienced family violence from my mother, and then it was like the only thing I learned or how to communicate, and everything was that I had to scream; I had to be explosive; that is, I was one of the people having more problems with my classmates because I became less intolerant than I already was. At a point, I felt the same aggression toward myself, and when I couldn't have my way with expectations, I felt like harming myself or dying" (P5/18 years old/male). This finding highlighted how learned aggression from early traumatic experiences could result in internalized anger and self-harm, thereby increasing the risk of suicidal ideation.

Respondent 6 shared too, "I am most times aggressive to others and have difficult relationships with people, and, to say the least, at work, and everything I have had is that I explode and scream and they believe conflicts; I had my outbursts of anger and all that, but it was something that I was already used to living with; it was already normal; at a point I found life meaning and bored and wish to kill myself" (P6/24 years old/male). This is an indication that the habitual nature of aggression and the resulting conflicts might have encouraged a sense of meaninglessness and existential boredom, culminating in suicidal thoughts.

The findings indicate that aggressive behavior towards others, often rooted in early traumatic experiences and used as a maladaptive coping mechanism, significantly shapes to suicidal ideations. Emotional dysregulation, social isolation, internalized aggression, and the normalization of such behavior create a psychological environment where suicidal thoughts can thrive. These findings underscore the importance of addressing the underlying causes of aggression and providing emotional support and intervention to mitigate the risk of suicidal ideation.

Observably, Figure 15 illustrates the observations made during the interview for this study. It also supported the current results because many of the people who experienced family violence also showed one or more other subcategories of interpersonal violence among certain college students. Those subthemes include familial violence, parental conflict, bullying exposure, problematic intimate violence, and aggression toward others. This underscores the idea that building these subthemes is essential for developing suicide prevention treatments for individual students with suicidal ideations.

Category 5. Psychological Stressors

Psychological stressors encompass a broad spectrum of emotional and mental challenges that significantly impact an individual's well-being (American Psychological Association [APA], 2022). These stressors often interact in complex ways, exacerbating feelings of distress and contributing to a decline in mental health (APA, 2022). In this study, the psychological stressors category examined cut across various subthemes that represent different facets of psychological dimensions including high levels of depression and anxiety, low resilience and cognitive rigidity, perceived burdensomeness, a lack of love and belonging, and heightened environmental worry. Understanding these subthemes provides a comprehensive view of the psychological landscape that can lead to increased vulnerability to mental health issues, including suicidal ideation.

Subtheme 1: High Depression (HP)

Depression, as defined by the American Psychological Association (2024), is a persistent state of profound sorrow or despair that disrupts daily activities and persists for more than a few days. Physical symptoms, including weight gain or loss, sleep disturbances, fatigue, or discomfort, may be induced by depression. The analysis of the qualitative data reveals a strong coexistence between depressive feelings and suicidal ideations among the respondents. The respondents' experiences summarize the main findings as follows:

Respondent 1 described the onset of depression and how staying indoor might have encouraged weight gain: "I started gaining weight, which caused me a lot of depression... I became slightly more obese, which caused me to become very moody. I dealt with it alone

and didn't tell my parents. I kept it for myself" (P1/30years old/male). The respondent's isolation and inability to share his struggles might have exacerbated his depressive feelings, which could lead to suicidal ideation as a result of feeling unsupported and overwhelmed by personal issues.

Respondent 2 articulated the impact of personal failures on his mental state: "Of course, I was depressed and hopeless; life seemed empty. Later on, I attempted suicide numerous times; one day I was unconscious, and I ended up at a clinic when I tried to kill myself" (P2/28 years old/female). The sense of hopelessness and perceived lack of purpose might have encouraged multiple suicide attempts, illustrating a clear link between severe depression and the escalation of suicidal behavior. Moreso, respondent 3 talked about the emotional turmoil and feelings of worthlessness: "I transformed everything into rage... This confusion led me to grow up believing I was useless and worthless. Crying had no use for me, so I attempted suicide" (P3/30 years old/female). The inability to appropriately express emotions and the resulting internalization of negative feelings shape to the respondent's belief in his own worthlessness, might encouraged feelings of suicidal ideations.

Also, respondent 4 explained the profound sense of emptiness and lack of support: "Well, nobody supports me anymore... I felt like I was on the verge of death. I no longer felt useful and wanted to die to get away from everything." The absence of social support and an overwhelming sense of existential emptiness drove the respondent to consider suicide as an escape from their emotional pain. In addition, respondent 5 shared her experience with intense emotions and frustration: I experienced intense emotions; I was sad; my body felt heavy and exhausted... I decided to attempt suicide five times but aborted" (P5/18 years old/male). The physical manifestations of emotional distress and repeated suicidal attempts reflect the severity of her depressive state.

Moreover, respondent 6 described a prolonged sense of worthlessness: "After enduring a significant amount of hardship, feeling worthless, and experiencing emotional pain, the wishful dead kept coming to mind" (P6/24 years old/male). The ongoing perception of worthlessness and emotional pain shape to persistent suicidal ideations, highlighting the detrimental impact of chronic depression. Furthermore, respondent 7 highlighted the severe depressive state and feelings of burdensomeness: "I experienced a state of muteness and

tension... I decided to commit myself because I felt like an enormous burden to them" (P7/22 years old/female). The inability to communicate and the feeling of being a burden might have intensified the respondent's suicidal thoughts.

Respondent 7 highlighted the severe depressive state and feelings of burdensomeness: "I experienced a state of muteness and tension... I decided to commit myself because I felt like an enormous burden to them" (P7/22 years old/female). The inability to communicate and the overwhelming feeling of being a burden intensified the respondent's suicidal thoughts, showcasing how deep-seated depression can lead to a perceived lack of value and increased suicidal risk. In the same manner, respondent 8 described the persistence of depressive feelings and their impact on suicidal actions: "I attempted suicide; they had simply informed them of how upsetting I am to them. I spent the majority of my time crying. I was determined to commit suicide" (P8/27 years old /female). The ongoing depressive state and perceived emotional distress from others shape to a strong resolve to end their lives, illustrating the profound influence of chronic depression on suicidal behavior.

So also, the respondent 9 articulated the despair from unmet expectations: "I don't want to live anymore; that is, it's not worth it; if I'm not going to be well, it's not worth it... these minor crises will subside within a day or two. I became uneasy as additional suicidal thoughts appeared, growing more vivid and clear" (P9/30 years old/male). The repeated failures and unfulfilled expectations might have might have encouraged acute emotional crises and vivid suicidal ideations, emphasizing how recurring disappointments could coexist with depression to increase suicidal tendencies.

Inferring from these findings, it indicates that depressive feelings, when coupled with factors such as isolation, emotional dysregulation, perceived worthlessness, chronic sadness, hopelessness, perceived burdensomeness, emotional pains and unmet expectations, significantly contribute to suicidal ideations. Understanding these interconnected mechanisms is crucial for developing targeted interventions and support systems to help individuals struggling with depression and mitigate the risk of suicide.

Subtheme2: Low Resilience (LR)

The current study defines resilience as the ability to adapt to and recover from adversity, stress, or trauma. It entails maintaining or quickly regaining mental health despite challenging circumstances (Oguntayo & Gutiérrez-Vega, 2024). Low resilience is therefore inability to maintain all the mentioned characteristics in this study. The results of the IDI data analysis revealed significant inertial links between low resilience and the emergence of suicidal ideations among the respondents. The respondents' narratives illustrate how their inability to cope with stressors and emotional challenges exacerbates feelings of despair and leads to suicidal thoughts and actions.

Respondent 1 expressed her struggle with low resilience and the need for external support: "Without having developed a little resilience, I suppose I still lack the social skills necessary to manage my affairs, necessitating extensive support for these issues that I perceive as stressors. I had no strength to cope" (P1/30 years old/male). This statement highlights the respondent's recognition of their low resilience and the resulting inability to handle personal stressors, which might have shaped feelings of helplessness and suicidal ideation.

In the same way, respondent 3 expressed a tendency to avoid seeking help and the resulting emotional distress: "It's preferable to avoid asking for help, as you never know if you might cause them discomfort because I am unable to continue; I am experiencing intense distress; and I am unable to live" (P3/30 years old/female). The avoidance behavior, driven by fear of causing discomfort to others, leads to a buildup of unresolved emotional distress, intensifying the respondent's suicidal thoughts.

Respondent 4's lack of mental toughness described the overwhelming nature of emotions and the desire to escape: "I reached a juncture where I desired the cessation of the emotion I was experiencing, as I was no longer able to control it; it is also the most challenging decision because it's akin to saying, Now, just end your life and escape the pain and demands" (23-year-old male). The inability to manage intense emotions and the subsequent desire to escape through suicide underscores the impact of low resilience on the respondent's mental state.

Furthermore, respondent 5 expressed feelings of hopelessness and perceived failure: "I didn't feel better because I wanted to end my life; I had previously mentioned it to my brothers, but I told them not to tell my parents because I wanted to escape the stress and hopelessness. I feel like a failure at school; that person is no longer going to be with me, and I don't have anything, so I wanted to end future demands by killing myself" (P5/18 years old/male). The respondent's low resilience in the face of academic and personal challenges leads to a sense of hopelessness and a desire to escape through suicide.

Respondent 6 described his situation as one of overwhelm and lack of direction, saying, "Maybe I decided to share with you because it helps to understand the motivations behind all these attempts. Therefore, a sense of disorientation and the presence of a supportive network motivated my initial suicide attempt. I am very young, but I felt very overwhelmed. I wished I had stronger support, but I felt like I had no direction, which is why I contemplated suicide but didn't attempt it. The third suicide attempt happened because I gave it a lot of thought, realized I couldn't cope, and was exhausted" (P6/24 years old/male). The respondent's low resilience and perceived lack of support and direction shaped multiple suicide attempts.

Respondent 8 also expressed the impact of a tense atmosphere and a relapse into depressive states: "The atmosphere felt very tense... I began to express discomfort, uncertainty about what was happening, and a growing sense of illness. Little by little, I'm getting depressed, and I'm noticing it. I can't cope with both schoolwork and life. I felt helpless once more and decided that I'd either harm or kill myself (P8/27 years old/female). Due to low resilience, the respondent's inability to manage the combined stress of academic and personal life might have encouraged suicidal ideations.

Respondent 9 described feelings of exhaustion and defeat: "Yes, I already felt worn out and defeated... I already harbored these types of thoughts... I found myself in a panic, declaring that I could no longer bear it. What do I do? I don't want to live anymore" (p9/30 years old/male). The persistent sense of exhaustion and defeat, resulting from low resilience, culminated in a desire to end their life.

According to these findings, the data analysis demonstrates that low resilience could probably be one of the critical factors identifying suicidal ideations among the respondents. The inability to cope with stressors, manage emotions, and seek support leads to feelings of hopelessness, helplessness, and a desire to escape through suicide. These findings highlight the importance of fostering resilience and providing adequate support systems to mitigate the risk of suicide among individuals facing significant emotional and psychological challenges.

Subtheme 3: Cognitive Rigidity (CR)

Psychological or cognitive rigidity is the incapacity to respond to situations flexibly while maintaining rigidity in thoughts, views, and behaviors that impede the pursuit of a valued objective through the use of emotional regulation and mindfulness skills. Individuals encounter distress when they are unable to suppress emotional responses during the pursuit of their objectives due to cognitive rigidity (Doorley et al., 2020). Cognitive rigidity is the incapacity or difficulty of an individual to alter their thought or behavior when it is ineffective or inappropriate (Cohen, 2017). It is the antithesis of psychological or cognitive flexibility, which is the capacity to adapt to new situations and evaluate a variety of perspectives and opinions (Chaves, 2021). Cognitive rigidity can lead to inefficient or rigid patterns that contribute to suicidality, which may be caused by behavioral regulation issues (Cohen, 2017).

The content analysis results of the qualitative data highlighted here showed the role of cognitive rigidity in explaining suicidal ideations among the respondents. The inability to adapt to changing situations, manage emotions effectively, and employ flexible thinking patterns is evident in the respondents' experiences, leading to increased vulnerability to suicidal thoughts and behaviors. For example, respondent 2 articulated a clear example of cognitive rigidity by describing his struggle with social skills and persistent suicidal ideations: “I went to Central High School; I only lasted about a month; I didn't talk to anyone; I didn't have any social skills. Since that day, I have experienced a persistent desire to not want to live, to despise myself, and to not feel comfortable with myself or my situation” (P2/28 years old/female).

The sudden burst of this bubble, which has profoundly affected me, stems from an inability to process the situation and the emergence of suicidal thoughts. I had no strength to

cope.” This highlights how a lack of adaptability and coping mechanisms can lead to a profound sense of despair and suicidal thoughts. For example, respondent 3 displayed signs of explosive reactions and self-harm, demonstrating cognitive rigidity through their aggressive reactions and self-harming behaviors: "The problem is that I also lose that place because of the way I react to things; as I always react angry and in a very explosive way, people naturally start to move away, and I can tell when they no longer want me there. It was as if then I hurt myself, as in previous situations I did hurt myself; I pinched my arms, I scratched my arms or my face; that's from the same desperation of not knowing how to get rid of what I was feeling, that in a certain way in the moments that were happening, I was younger because I did not realize how to regulate or flexibly manage myself" (P3/30 years old/female). The inability to regulate emotions flexibly might have led to social isolation and self-harming behaviors, further exacerbating suicidal ideations.

In other ways, respondent 4 demonstrated a difficulty in understanding and controlling emotions during rigidity processing, which might have encouraged suicidal thoughts: "In my mind, I couldn't understand why he kept searching for me, why we were seeking each other, why we kept seeing each other, or why events persisted even after he had a partner." I mean, I didn't know how to handle it; I didn't know what I was feeling or how to mindfully manage it, so harming myself and attempting suicide keeps coming to mind” (23-year-old male). This illustrates the confusion and rigidity in managing emotional disturbance might have led to thoughts of self-harm and suicide.

Lack of flexibility in managing aggressive outbursts and destructive thoughts Respondent 5 expressed a pattern of aggressive outbursts and destructive thoughts due to Cognitive rigidity: "I'm not shouting; that's just how I am, or that's my way of speaking, and at the moment, if there's an argument or something, I'm not able to start a conversation of sorts in a good, calm way." I've always been very aggressive, often bursting into tears, expressing feelings of hatred towards my mother, expressing a desire to die, and expressing similar sentiments" (P5/18 years old/male). The inability to handle conflicts calmly, as well as the tendency to resort to aggression and suicidal thoughts, indicate cognitive rigidity.

Moreover, respondent 6's expression revealed extreme self-harm behaviors and a fixed mindset: "I inserted needles into my skin, buried them there, grabbed my belt and a

rope, and choked myself until I let go." I don't know; it was very extreme. I wasn't in my right mind; I simply knew that I didn't want to live anymore because she was no longer there. I lost this part of myself that had cost me so much to find, and I find it difficult to change my thoughts" (P6/24years old/male). The respondent's extreme actions and rigid thought patterns reflect a severe lack of cognitive flexibility which might encouraged suicidal behaviors.

So also, respondent 7 highlighted a lack of emotional awareness and persistent negative thinking, stating, "I realized that I am not very aware of my emotions because I broke up with her." Something very strange caused me to think negatively, and the thought of suicide keeps rushing through my mind" (P7/22 years old/female). The inability to be mindful of emotions and the tendency to spiral into negative thoughts exemplify cognitive rigidity, which has an impact on suicidal ideations.

The words of respondent 9 also showed a rigid cognitive mindset and linked it to suicidal thoughts: "I'm thinking about other things, I lose my temper, and I struggle with details; it's something I would like to work on at some point." I fear that isolation will exacerbate my feelings, leading me to rigidly contemplate ways to end my life. I've tried to stop it, but it persists" (p9/30 years old/male). Inflexibility in thinking and difficulty managing emotions contribute to ongoing suicidal ideations.

Making inferences from these findings, cognitive rigidity might have played a role in the development and persistence of suicidal ideations among the respondents. The inability to adapt to stressors, manage emotions effectively, and employ flexible thinking patterns exacerbates feelings of hopelessness, isolation, and despair might have led to suicidal thoughts and actions. These findings underscore the importance of enhancing Cognitive rigidity through interventions aimed at improving emotional regulation, adaptability, and coping strategies to reduce the risk of suicide.

Subtheme 4: Perceived Burden (PB)

Perceived burdensomeness is an individual's belief that he or she is a burden on others, a group, or society (Zullo et al., 2022). The findings of this qualitative study revealed a probable connection between the respondents' perception of themselves as burdens and the

emergence of suicidal ideations. The sensation of being a burden to family members and others can significantly increase feelings of hopelessness and the desire to escape through suicide. The respondents' statements provide insight into how this perceived burden might have triggered thoughts of self-harm and suicide.

Using self-perception, one can interpret themselves as a burden. Respondent 3 showed signs of perceiving himself as a burden, which is evident in the statement: "I am not going to tell them because I don't want to bother them or this type of thing, so it's like, even though you know you're not alone, you feel alone, so it's like, and like, I want to relieve them as they see me as a burden" (P3/30 years old/female). This illustrates how the feeling of being a burden leads to isolation and a desire to alleviate others from their perceived inconvenience, triggering suicidal thoughts.

Participants also had a desire to alleviate others' burdens, as demonstrated by respondent 4, who articulated their sense of burden and its subsequent impact on their mental state: "At that time, I no longer spoke to my aunt or her husband, not because I was angry that they could no longer help me, but because I already felt like an enormous and heavy burden; I was already an enormous and heavy burden for them, as well as for my grandmother; I didn't want him to see me like that again, so I believed that killing myself and leaving them would be beneficial to them" (23-year-old male). This statement highlights how the perceived burden reflects the belief that suicide would be a relief for their loved ones.

Respondent 7 demonstrated signs of feeling like a burden by avoiding asking for help, as evidenced by their statement: "I was thinking I didn't want to bother my uncles; I'm going to try to do it on my own; I've done it before, so well, I'm going to take a chance for the fourth semester of 2018" (P7/22 years old/female). This reflects an avoidance of seeking help due to the belief that it would be bothersome, further isolating them and increasing the risk of suicidal ideations. Consequently, some participants were hesitant to seek support because of the perceived burden. For example, respondent 8 shared similar feelings of being a burden: "Yes, I already felt tired and defeated, and I was very small, but I already had these kinds of ideas. Yes, a couple of years have passed since I decided to take my own life and stop being a burden to my family" (P8/27 years old/female). This respondent's feelings of exhaustion

and defeat, combined with the belief that their existence is a burden to their family might have led to persistent suicidal thoughts.

Respondent 9 provided additional evidence of feeling like a burden, stating, "Yes, I already felt tired and defeated, and I was very small, but I already had these kinds of ideas." Yes, a couple of years have passed since I decided to take my own life and stop being a burden to my family" (P9/30 years old/male). The respondent's belief that suicide is a way to stop being a burden to their family underscores the profound impact of this perception on their mental health and suicidal ideations.

The findings of this content analysis reveal that the perception of being a burden significantly shapes suicidal ideations among the respondents. Feelings of isolation, avoidance of seeking help, and the belief that their death would relieve their loved ones from the burden of their existence are common themes. These findings emphasize the need for interventions that address these perceptions and provide emotional support to reduce the risk of suicide.

Subtheme 5: Low Love and Belonginess (LLB)

Low belongingness and love refer to a person’s perception that they are not meaningfully connected to others which could lead to feelings of isolation and loneliness in a group, community, or society (Zullo et al., 2022). The findings from this qualitative data could reveal a probable connection between the respondents' perceived lack of love and belongingness and the emergence of suicidal ideations. Feelings of rejection, alienation, and the absence of emotional connections are significant contributors to their suicidal thoughts. The respondents' statements provide insight into how this perceived lack of love and belongingness might have triggered thoughts of self-harm and suicide.

This study found that participants' experiences of rejection and their desire for connection reflected suicidal ideation symptoms. For instance, respondent 1 expressed a deep need for love and a sense of belonging, highlighting the impact of rejection on their mental state: "I let them do whatever they wanted with me; I didn't have any self-love at that age, so I tried to survive; I was kind of rejected by my father; well, not rejected, but there has always

been friction and a desire to die when they deserted me with connection to them" (P1/30years old/male). This demonstrates how a lack of self-love and perceived rejection from a parental figure can lead to suicidal ideations.

More so, respondent 3 also expressed feelings of rejection, a yearning for love, and a sense of belonging: "I experienced a sense of rejection and a sense of withdrawal; I felt as though they had taken away my position due to the presence of another girl, and I always believed that my sister received preferential treatment or spoiling compared to me. This realization shocked me, as it revealed that my parents didn't like me. I understood that they saw no need for her, but I still wanted her love and belonging to them. However, they never taught me the importance of self-love" (P3/30 years old/female). This respondent's perceived rejection and lack of emotional support from their parents triggered feelings of worthlessness and suicidal thoughts.

This research has revealed a link between emotional disconnection and suicidal thoughts. For example, respondent 4 highlighted the importance of love and belongingness in his life: Respondent 4 emphasized the importance of love and belongingness in their lives: “For me, my family holds significant value; if I cared, I felt obligated to be available for them. That's how it was until this last incident; I mean, it was always like that, so I felt it was better to leave them if they couldn't show me love and connectedness" (23-year-old male). This respondent's experience underscores how the absence of emotional support and connectedness from family members can lead to suicidal ideations.

Moreover, respondent 5 expressed a similar sense of alienation within their family: "My parents, who previously didn't require much attention from me, now seem to be dominating me, causing me discomfort. It feels like I'm not accustomed to such high levels of attention from them, making me feel like a stranger in my family. I often feel like I need to leave them and commit suicide" (P5/18 years old/male). This statement highlights how the sudden shift in attention and feeling like an outsider within their family can contribute to suicidal thoughts.

Participants struggle with relationships and seek belonging when they cannot find it, displaying suicidal thoughts. Respondent 6, for example, highlighted the need for love and

belongingness as triggers for suicidal behavior. Respondent 6 stated, "Music keeps me liked; my favorite food is not her favorite, and well, I started doing things that she liked because I no longer felt like I belonged to her." I tried to ensure that my partner could still enjoy me, love me, and give me a sense of belonging with her but, I don't know, it's a very absurd idea, so I stopped talking to her when I got fed up. She consistently engages in the same habit, for reasons I won't reveal, but it hurt me on July 2nd, which is why I made my third, well, several, suicide attempts" (P6/24 years old/male). This respondent's struggle to maintain a sense of belonging and the emotional disconnection from their partner might contributed to the multiple suicide attempts.

The findings of this content analysis reveal that the perceived lack of love and belongingness significantly shapes suicidal ideations among the respondents. Feelings of rejection, alienation, and the absence of emotional connections with family and partners are common themes that trigger thoughts of self-harm and suicide. These findings underscore the importance of fostering emotional support and connectedness to mitigate the risk of suicide.

Subtheme 6: High Anxiety (HA)

Anxiety, an emotion characterized by feelings of tension, worried thoughts, and physical changes like increased blood pressure, is often synonymous with fear, often associated with fear of the unknown, the known, and the future (Leonard, & Abramovitch, 2019). The result of the qualitative data revealed that anxiety symptoms significantly contribute to suicidal ideations among the respondents. Various forms of anxiety, ranging from general anxiety and fear of the future to social anxiety, create a sense of hopelessness and distress that often leads to thoughts of self-harm and suicide.

The impact of anxiety on mental health exacerbates suicidal ideation in participants. For example, respondent 1 described how anxiety exacerbated their suicidal thoughts: I was a little more obese because I started to gain weight, which gave me a lot of anxiety. I was a nervous wreck. I couldn't even leave the house because I had this desire to hurt myself. I was very anxious, and the thought of self-destruction persists; headaches and sweat at some

events make me yearn for assistance" (P1/30years old/male). This highlights how physical changes and resulting anxiety can lead to a persistent desire for self-destruction.

Respondent 2 also linked anxiety to suicidal ideation, citing a lack of support and fear of the future as contributing factors: "My psychological pain began when my parents blocked me from seeking expert help; most times, I have a fear of the unknown, and future success dreads me, causing my escape thoughts for suicide" (P2/28 years old/female). The inability to seek help and the fear of future uncertainties intensified suicidal thoughts.

Anxiety and anticipation of future events seem to contribute to suicidal ideation, especially amidst low resilience and emotion regulation. For instance, respondent 3 **e**xpressed how anxiety about the future triggered suicidal thoughts: "In fact, if the anticipation of future events causes anxiety in me, or if this situation arises, what actions will I take? I think of killing myself." Additionally, respondent 3 expressed, "I grew up with a sense of fear, feeling the need to conceal my actions from him due to uncertainty about his reaction or potential reprimands. This fear was exacerbated by the failure of my previous job, which hindered my career advancement. I was unsure of my plans, especially since I didn't want to start a family. As a result, I began to experience intense fear and anxiety, feeling as though there was nothing left to do but end my life here and find relief" (P3/30 years old/female). This illustrates how fear and anxiety about personal and professional failure can drive individuals toward suicidal thoughts.

In the same way, respondent 4 described how anxiety from high-pressure situations might have encouraged suicidal ideation: "All those situations also caused anxiety; it is not that I am not giving a diagnosis and that it is something accurate, but it is how I feel that it was working, or I mean, like, because I'm telling you about anxiety because there were times when I was exposed to a lot of tension and my body reacted as if it were an alarm signal that something could happen to me, and it started to happen to me that I should kill myself and after the first attempts and persisted" (P4/23-year-old/male). This indicates that intense anxiety in stressful situations can lead to repeated suicidal attempts.

Persistent anxiety was presented to increase suicidal thoughts among participants; for example, respondent 5 expressed ongoing anxiety issues, linking them to suicidal thoughts:

"With so much anxiety, I find it difficult to think right and at a point felt like killing myself could help as an escape route; right now, it's okay like something has stabilized; it was physically normalized now than then, that is, to deal with the emotions and my suicidal thoughts and twice attempts" (P5/18 years old/male). As expressed by this interviewee, the anxiety symptom at a high level is one of the underlying factors that perpetuated or triggered his suicidal ideations in the past. In addition, respondent 6 highlighted social anxiety as a trigger: For me, it was a relief to die. I was starting to experience significant anxiety at school due to the feeling of not being prepared, but without it, I was already considering moving because I didn't want to miss another semester "(P6/24 years old/male). As a perceived escape, the pressure and anxiety from social interactions at school might have encouraged suicidal thoughts.

Respondent 8 also discussed how anxiety and past trauma influenced their suicidal thoughts. The anticipation of catastrophic events and anxiety about past trauma intensified suicidal ideation. Respondent 9 described using self-harm to manage anxiety in the same way: "Yes, there came a time when I had a knife and it hurt me, but it was just to calm my anxieties; it was what calmed me down a little; I felt at the time of trying it: fear, a lot of anger, and a little panic of, 'How am I going to do it?" (P9/30 years old/male)**.** This respondent's anxiety might have encouraged self-harm as a coping mechanism, which in turn reinforced suicidal thoughts.

In essence, these findings indicate that anxiety symptoms, ranging from social anxiety to fear of the future, significantly contribute to suicidal ideations among the respondents. Suicide becomes a perceived escape or relief due to the persistent sense of distress, fear, and inability to cope with high-pressure situations or personal failures. These findings underscore the critical need for addressing anxiety in interventions aimed at preventing suicide.

Subtheme 7: High Environmental Worry (HEW)

Environmental worry encompasses a range of emotional and behavioral responses to environmental problems, including feelings of fear, unease, and apprehension about the immediate and future impacts of environmental issues on individuals (Oguntayo, et al., 2023). The results analyzed in this study revealed that worry about environmental

degradation and associated crises, such as earthquakes and climate change might have contributed to suicidal ideations among respondents.

The constant anxiety and fear related to these crises create a sense of hopelessness and helplessness, driving individuals toward thoughts of self-harm and suicide. For instance, researchers found that environmental crises can pose a mental health challenge, that might coexist in reflecting tendencies for suicidal ideations. Respondent 2, for example, expressed significant worry about environmental crises: "The 2017 earthquake, coupled with the violence and hot temperature in Juarez, caused tense worry and anxiety." As a result, I decided to go on Facebook and post a notice of my intention to kill myself and end it all. I realized, based on my concerns about my situation, environment, and personal experience, that I had attempted suicide multiple times" (P2/28 years old/female). This respondent's anxiety and fear of the environmental crisis, combined with personal circumstances, might have encouraged multiple suicide attempts.

In the same way, Respondent 6 also expressed signs of concern about climate change in his expressions: "The second time I felt the tremor in Chihuahua, I was worried because I didn't know where I was going, and when I think about the hot temperature in Juarez, I feel very outside of myself; the earthquake had filled me with fear, leaving me in a tense, worry-filled, and hopeless state. I found myself contemplating where on earth would be a safer place than to simply die and leave" (P6/24 years old/male). The environmental crisis, along with the accompanying fears, intensifies psychological distress and can lead to self-harm.

Respondent 8, for instance, shared her experience of fear and anxiety related to climate change and earthquakes thus; “My house was shaking and as a result, I had a power outage, which caused me to become extremely nervous and start crying. Fortunately, my classmates helped to calm me down. It's happened twice here in Juárez, and it shakes, and I'm here, and as you can see, you hardly feel anything, but I'm very afraid of the tremors; it happened to me. This earthquake incident occurred to me when my uncles arrived in October, during a period when the city was in a state of chaos and no one wanted to venture out onto the streets. So, I couldn't let go; it had happened before, and now, as the earthquake was causing serious distress, what was happening?" (P8/27 years old/female). This indicates how

repeated environmental crises, like earthquakes, create a cumulative effect of distress and fear, leading to suicidal thoughts".

Also, respondent 8 further expressed ongoing fear and discomfort related to earthquakes: "I was alone and didn't want to stay in my house because I developed a lot of fear of earthquakes; in fact, it shook a few days ago; honestly, since the tremor, I don't feel comfortable, and so and so, and carefully complicated my fear and meaningless life feelings" (P8/27 years old/female). The persistent fear and anxiety from environmental events exacerbate feelings of a meaningless life, pushing toward suicidal ideation.

The findings of the exploratory study of the content analysis showed that environmental degradation crises, including earthquakes, extreme weather conditions like hot or high temperatures, and climate change generally, significantly contribute to suicidal ideations among respondents. The continuous fear, anxiety, and stress from these crises create a mental state of hopelessness and helplessness. The respondents' experiences underline the need for addressing environmental worries in mental health interventions to prevent suicide.

Category 7. Social Stressors

Suicidal ideations, or thoughts about self-harm or suicide, are complex phenomena influenced by various factors, among which social stressors play a pivotal role. Social stressors, encompassing a broad range of interpersonal and societal pressures, significantly impact individuals' mental health and can precipitate suicidal ideations, particularly in vulnerable populations. This discourse delves into three critical subthemes of social stressors—low social support, study-life imbalance, and student-teacher relationships—illuminating their intricate connections to suicidal ideations, especially within academic environments.

Subtheme 1: Low Social Supports (LSS)

Social support refers to an individual's perception of the abundance or porousness of social networks or support. These supports include intimate confidants, who can be relied on during difficult times. Worry from others, that is, the level of attention and worry others have

in your actions and decisions, and practical profession or informal aid from neighbors or relatives, which is viewed as the ease with which such help may be obtained if necessary (Kocalevent et al., 2018).

This exploratory content result highlighted the significant role social support plays in psychological well-being and how its absence or inadequacy has a tendency to trigger suicidal thoughts. Each respondent's experience illustrates different facets of low social support and how these shape their emotional distress and suicidal ideation. For instance, respondent 1 shared that familial support initially came through religious encouragement rather than direct psychological help: "By 2022, things stabilized a bit: there was more cooperation between my dad and my mom... Unlike aggression, there had been no prior cooperation or communication, exacerbating my circumstances and contributing to my suicidal thoughts." The lack of effective communication and expected cooperation from the parents left respondent 1 with feelings of an unsupportive family, encouraging them to perceive non-meaningful existence that might have probably increased suicidal thoughts.

Similarly, respondent 2 explicitly highlighted the unhelpfulness of their parents: "My parents are unhelpful, adding to my stress and making life seem unworthy; we do not always have talks with my family; I had no one to speak to" (P2/28 years old/female). The absence of meaningful communication and emotional support from parents increased their stress levels, contributing to feelings of worthlessness and a desire to escape through suicide. In addition, respondent 3 described a lack of guidance and support in both academic and personal spheres, stating, "I need to learn mechanical engineering and other related topics... because I felt that I didn't have the support of my parents... life became distressed, and I desire to harm myself and probably die" (P3/30 years old/female). The combination of academic pressure and perceived emotional neglect from parents exacerbated their distress and suicidal ideations.

Respondent 4 provided a detailed quote that reflects similar experiences: "Despite yelling for help from them, friends and parents are unhelpful in my career pursuit. I felt that they should have allowed me to seek expert help, but they kept saying you will overgrow it. It was a young age crisis, I didn't have the affection of my parents, I couldn't talk to them about many things, and as for me, life became distressed, I was tensed, and I desired to

probably die” (P4/23 years old/male). In the same way, respondent 5 felt the lack of familial support deeply: I mean, it's not like you're forced to feed your family, but for me, it was hard and affected me, so right now I want to leave them and die" (P5/18 years old/male). The perceived necessity and absence of family support might have encouraged feelings of isolation and suicidal thoughts.

Moreover**,** respondent 5 expressed frustration over being misunderstood and ignored: "I told my friends and brothers... but they think I am just creating attention and ignore me" (P5/18 years old/male). This dismissal from their social network intensified their sense of loneliness and shaped their suicidal ideation. Respondent **7** felt neglected by both their academic and home environments: "Nobody among the teachers cared, and my home was just asking me what I wanted again... I attempted suicide in the city of Juárez" (P7/22 years old/female). The lack of concern from teachers and family during a difficult period increased their feelings of hopelessness, leading to a suicide attempt.

Respondent 8 experienced a lack of interest and communication from their family: "They treated me well taking me to church and seeking prayers from the priests, they encouraged me a little, but they didn't inquire about my challenges leaving like a dumb person even while I have a lot to share to be relieved" (P8/27 years old/female). This superficial support, without genuine concern or understanding, left them feeling overwhelmed and unvalued, leading to suicidal thoughts.

According to these findings, many respondents mentioned a lack of meaningful conversations with family members, which shaped their feelings of isolation and distress. This absence of communication prevented them from expressing their struggles and receiving the necessary support. Respondents frequently felt misunderstood or dismissed by their social circles, which amplified their feelings of loneliness and worthlessness. This neglect, especially from close family members, played a significant role in triggering suicidal thoughts. It was also emotional support in times of distress or practical guidance in academic pursuits; the lack of adequate support systems left respondents feeling overwhelmed and unsupported which might have been driving them toward suicidal ideations.

Some respondents received superficial support, such as religious encouragement, without receiving psychological counseling that could have encouraged them to address the root of their emotional distress. The analysis revealed a clear link between low social support and the triggering of suicidal ideations among the respondents. The absence of meaningful communication, perceived neglect, inadequate emotional and practical support, and superficial support systems contribute significantly to their psychological distress. This highlights the critical need for robust, empathetic, and practical support networks to mitigate the risk of suicidal ideation in individuals facing similar challenges.

Subtheme 2: Poor Students-Teachers Relationships (LSTR)

Poor student-teacher relationships refer to a deficiency in trust, communication, and mutual respect between students and teachers. It involves interactions that arise from multiple circumstances, such as unresolved conflicts, a lack of awareness of particular student needs, and negative behaviors like criticism or disregarding students' difficulties (Oguntayo et al., 2022).

The findings in this study showed the roles of poor student-teacher relationships in the development of suicidal ideations among students. Each respondent's experiences highlighted how inadequate support, negative interactions, and a lack of empathy from teachers shape their emotional distress and thoughts of self-harm or suicidality.

Findings showed how inadequate support, negative interactions, and a lack of empathy from teachers contribute to emotional distress and thoughts of self-harm. For example, respondent 1 recounted his personal experience of a low or poor relationship with his teachers in high school, which resulted in personal and academic distress and ultimately might have encouraged a distressing life. He reported, "I stopped going to school because I couldn't stand the type of relationships I had with some of my teachers, and my parents didn't realize this until they called the house; a teacher did say let me teach and leave, and later, by the time my parents realized, I was already down, thinking about how to die."

Findings also showed how poor relationships with teachers often result in declining academic performance. The respondents' inability to cope with academic pressures without

adequate support might have encouraged subject failure, further intensifying their emotional distress and tendency for non-meaningful coexistence. For example, respondent 3's report showed how a poor relationship with the course teacher was negatively impactful; thus, "When I was in my second year, I had some problems with a teacher because, I don't know, she didn't like me" (P3/30 years old/female). She constantly reprimanded me, citing instances where she insulted my parents or similar incidents. It was a very difficult year for me, and later I began to feel helpless and hopeless about schooling." Respondent 4 also shared a negative experience regarding his relationships with teachers, stating, "I felt very lost; I didn't know what to do; I lost a month of university; I knew it would be very difficult to make up; some teachers understood me, but many others didn't care; instead, they gave derogatory comments about me; thus, I failed one or more subjects; and in 2019, I told you right there that my life was empty and I gave up" (P4/23 years old/male).

Respondents reported feeling isolated due to the lack of support from teachers. This isolation was particularly harmful as it hindered their ability to seek guidance and assistance, leaving them to navigate their challenges alone and increasing the risk of suicidal ideation. For instance, respondent 8 reported how poor teacher-student relationships cause a lot of strains that lead to suicidality: "This was particularly frustrating because I was deeply interested in understanding my identity, both in secondary school and now at university. However, none of them seemed to care, leaving me stressed or unattended. I think the social sciences would have been better, but not in this case. Later, students participated in several competitions, but I didn't feel well-prepared to join them. Consequently, my enthusiasm for all school activities diminished" (P8/27 years old/female).

This analysis demonstrates the critical role that positive student-teacher relationships play in maintaining students' psychological well-being. The respondents' experiences highlight how negative interactions and a lack of support from teachers can lead to emotional distress, academic failure, and ultimately, suicidal thoughts. This underscores the need for educators to foster supportive, empathetic, and understanding relationships with students to help mitigate the risk of suicidal ideation and promote a healthier academic environment.

Subtheme 3: Study-Life Imbalance (SLI)

A study-life imbalance is a condition in which a student finds it difficult to balance their academic responsibilities with other aspects of their life, including personal leisure, social activities, and rest. Stress, exhaustion, and a decline in overall well-being may result from this imbalance (Bartlett et al., 2021). The findings in this study emphasized how study-life imbalance significantly affects psychological well-being, leading to emotional distress and suicidal ideation among respondents. Each respondent's experience highlights different aspects of how an unbalanced academic and personal life can exacerbate mental health issues and contribute to suicidal thoughts.

Respondents who experienced study-life imbalance were distressed when their study was at stake. For instance, respondent 1 described the overwhelming pressure of academic life combined with inadequate social skills, leading to emotional breakdown: "I was always a brainiac... However, at the Tec de Monterrey, there are often individuals who can be quite burdensome, particularly if they come from a slightly humbler background. To give myself some heartbreak, I decided to drop out of school for a semester. I struggled greatly because I lacked the social skills to balance life, leading me to break down and consider suicide" (P1/30years old/male). The lack of social integration and the intense academic pressure created a scenario where respondent 1 felt the need to escape, leading to suicidal thoughts.

Another participant, such as respondent 2, was faced with the challenge of balancing demanding academic courses with personal relationships, saying, "ICB courses such as medicine, biological sciences, and vet medicine... contribute significantly to academic stress; as a medical student, juggling academics and relationships becomes challenging... my performance began to decline, which negatively impacted my mental health. Eventually, these pressures led me to consider suicide as a way to cope." The inability to balance rigorous academic demands with personal life strained this participant's mental health, leading to suicidal ideation as a perceived escape route.

In the same manner, another participant showed how struggling with study and general life was negatively impactful in life. For example, respondent 4 struggled with maintaining academic performance while managing newfound independence and social responsibilities: "It seems to me, so here at school I was already half juggling because the pandemic affected me... paying attention to the class, social life, relationships, or other things

was difficult... I ended up with the person who was my partner while living alone. I could not manage that with schooling and at a point felt choked, and later my performance dropped, and I couldn't cope but was distraught, full of negative thoughts like harming myself" (23-year-old male). The disruption caused by the pandemic, combined with the pressures of maintaining academic performance and managing personal life, overwhelmed this student respondent, leading to suicidal thoughts.

The findings indicate a clear connection between study-life imbalance and the triggering of suicidal ideations among the respondents. The inability to cope with these new dynamics might have encouraged feelings of being overwhelmed and thoughts of self-harm or suicide. The intense academic pressures, coupled with inadequate social integration, the struggle to maintain personal relationships, and the challenges posed by independence and pandemic-related disruptions, significantly impact mental health. This highlights the critical need for comprehensive support systems that address both academic and personal well-being to prevent the escalation of distress that might coexist with suicidal thoughts.

Chapter IV. Discussion and Conclusions

General Question/General Objective/General Hypothesis

The results from this current mixed study with sequential explanatory design have been growing towards past literature, though there are certain ambivalences to some past studies. First, at the quantitative phase, the results provide significant insight into the relationship between multiple psychological, social, and environmental variables and suicidal ideation, with social support and resilience mediating the associations. The findings from the qualitative parts of this study were also found to align and complement the quantitative results, so also going in the direction of some recent literature extending a rigorous understanding of both protective and risk factors that contribute to suicidal ideation among the UACJ student population in northern Mexico.

Hypothesis 1 which stated that there will be a significant relationship between age, resilience, social support, anxiety, depression, cognitive rigidity, worry about environmental degradation, and suicidal ideation among the selected participants was confirmed in this study. The results showed a negative relationship between age and suicidal ideation, although small, it is consistent with past studies suggesting that younger individuals, especially adolescents and young adults, may face more psychosocial stressors that elevate their risk of suicidal thoughts (Hua et al., 2023; Oguntayo, 2023). Additionally, the CDC (2018) found that among those aged 18 to 34, suicide ranks as highest as the highest leading cause of death, followed by those aged 35 to 54 and those aged 55 to 64. This is because age-related factors may aid coping strategies, social experiences, and emotional regulation, thereby enhancing mental health resilience and potentially protecting older individuals from suicidal ideation.

Also, resilience and social support were found to have a significant negative association with suicidal ideation. This aligns with the body of research suggesting that

resilience, which involves an individual's capacity to recover from adversity, reduces the likelihood of mental health crises, including suicide attempts (Ejehei, 2010; Lee et al., 2023; Oguntayo, 2024a; Oguntayo et al., 2024b; Sullivan et al., 2023). Additionally, social support was found to be negatively related to suicidal ideation. This indicates that social support networks are crucial in buffering against the effects of psychological stressors that exacerbate suicidal ideation. Studies have found that those with strong social connections tend to report lower levels of depression and anxiety, which are associated with suicidal ideation (Arenson et al., 2021; Bolton, 2023; Chouhy, 2019; Li et al., 2021; Oguntayo et al., 2024a). The current findings provide additional support for the importance of fostering social ties and resilience-building interventions among students who are at risk of mental distress that exacerbates suicidal thoughts.

In testing hypothesis 1, on the other hand, cognitive rigidity, anxiety, and depression showed strong positive correlations with suicidal ideation, marking them as prominent risk factors. Cognitive rigidity refers to a limited ability to adapt one's thinking in the face of changing circumstances, which can exacerbate feelings of hopelessness—a key driver of suicidal ideation (Cohen, 2017; Schneider et al., 2020; van Tuijl et al., 2020; Wang et al., 2022). Similarly, anxiety and depression are associated with suicide risk (Ibarra-Mejia et al., 2022; Oguntayo et al., 2024a; Remes, et al., 2021; Torres & O'Connor, 2019). In this context, anxiety could often lead to chronic psychological distress, while depression typically intensifies feelings of worthlessness and hopelessness (Klonsky et al., 2015), making suicidal ideation more likely. The strong correlations found in this study corroborate the existing evidence that mental health interventions targeting anxiety and depression should be prioritized in suicide prevention strategies.

The results showed a significant negative correlation between environmental degradation worry and suicidal ideation, which added a novel dimension to the literature. Environmental degradation worry is a relatively new risk factor being explored in the context of climate anxiety, particularly among young adults, especially university students who feel a profound sense of hopelessness about the future of the planet combined with academic stress (Brailovskaia et al., 2024; Clayton et al., 2021; Oguntayo, 2023). Though scientific studies supporting this result are scarce, the finding is a cutting edge and it suggested that

environmental stressors, beyond personal or psychosocial issues, may contribute to mental health challenges, potentially leading to suicidal ideation. This highlights the need for integrating environmental concerns into mental health support systems, especially for college student populations deeply affected by environmental degradation.

Hypothesis 2 stated that respondents' age, sex, relationship status, scholarship status, sexual orientation, anxiety, depression, social support, cognitive rigidity, and environmental degradation worry will have a significant joint and independent prediction of suicidal ideation among the selected participants. The analysis of the results provided a comprehensive look at the joint and independent contributions of various factors in predicting suicidal ideation. In this study's results, age, sex, sexual orientation (being gender diverse), scholarship status (no scholarship), and academic performance (low performance) accounted for a high variance in suicidal ideation.

Previous studies have demonstrated that suicidal ideation is predicted by factors such as younger age (Cabello-Rangel et al., 2020; Garg et al., 2022; Kirakosian et al., 2023), sex differences (Oguntayo, 2023; Owusu-Ansah et al., 2020; Torino et al., 2024), sexual and other gender minority identification (Li et al., 2023; Kirakosian et al., 2023; Guy et al., 2020; Phillips & Hempstead, 2017; Smith et al., 2022), low academic performance (Garg et al., 2022; Mirza et al., 2021; Smith et al., 2022; Wachter et al., 2020) and inadequate scholarship supports (Buhari et al., 2021; Orozco et al., 2018; Veresova et al., 2024). Also, when cognitive rigidity, anxiety, depression, and environmental degradation worry were added to the model at step 2, it explained higher variance, demonstrating the substantial role of psychological and environmental factors in predicting suicidal ideation. This large increase in variance of suicidal ideation is consistent with literature underscoring the significant predictive power of psychological factors like cognitive rigidity, anxiety, and depression in suicide risk models (Fernández-López et al., 2021; Hogg Foundation for Mental Health, 2020; O'Connor & Nock, 2019; Oguntayo, 2023; Oguntayo et al., 2024a; Oguntayo et al., 2024b).

The findings suggested that heterosexual orientation, high academic performance, scholarship status, and older age were all substantial protective factors against suicidal ideation. Moreover, the findings suggested that students who exhibit exceptional academic

performance may experience a diminished level of psychological distress, which may mitigate the onset of suicidal ideation. However, further research is necessary to clarify the protective factor of sexual orientation. Previous research, such as that conducted by Li et al. (2023), has demonstrated that non-heterosexual individuals frequently experience elevated rates of suicidal ideation as a consequence of discrimination, rather than their sexual orientation status, which hurts them. In addition, the findings indicated that cognitive rigidity, depressive symptoms, anxiety, and environmental stressors could increase the probability of suicidal ideation, thereby establishing these factors as critical risk indicators. The implications suggest the need for targeted interventions that will improve the protective factors, such as academic performance, social support (e.g., scholarship programs), resilience, and social affiliation success, while simultaneously reducing the risk factors, including mental health vulnerabilities such as cognitive rigidity, anxiety, depression, and environmental worry degradation. This can be achieved through cognitive reconstruction that is integrated into a resilience skills intervention.

The third hypothesis proposed that resilience and social support would significantly mediate the relationships between anxiety, depression, cognitive rigidity, worry about environmental degradation, and suicidal ideation in the selected participants. The study's results provided significant insights into the mediating roles of resilience and social support in the relationships between anxiety, depression, cognitive rigidity, environmental degradation worry, and suicidal ideation among the selected participants. Studies (Ortiz-Calvo et al., 2022; Pollock et al., 2020; Oguntayo et al., 2024b) have shown that resilience and perceived social support helped to protect young individuals from negative impacts of mental illness outcomes such as depression, anxiety, traumatic events related to environmental crises, and other distressing psychopathological situations that could increase the likelihood of suicidal thoughts. The obtained results supported the proposition that "social support and resilience will mediate the risk factors of suicidal ideation." Also, past studies have found social support as the protective factor of suicidal ideation (Choi et al., 2019; Darvishi et al., 2024; Lannoy et al., 2020) and resilience as the protective factor of suicidal ideation (Lannoy et al., 2020; Oguntayo et al., 2024b; Owusu-Ansah et al., 2020; Wang et al., 2022); however, all these studies were conducted outside Mexico and Latin America student populations.

These results are suggestive of the direction that public health entities may be able to mitigate this challenging phenomenon by focusing on its risk factors and related mental health predictors in the current study. In addition, these findings are pivotal in understanding the psychological mechanisms underlying suicidal ideation, particularly in contexts where social support and resilience mediate or interact with environmental, psycho-maladaptive, and social stressors to trigger suicidal behaviors. Moreover, the results implied that depression, anxiety, cognitive rigidity, and environmental crisis worry significantly predicted suicidal ideation, both directly and indirectly, but resilience and social support mediated the impacts. These findings highlight the need to enhance cognitive resilience interventions integrated with social support systems to address the risk of mental health challenges among university students and reduce suicidal ideation among students.

The fourth hypothesis proposed that respondents' mental health needs will offer valuable insights into the risks and protective factors, thereby facilitating the development of intervention modules designed to reduce the risk of suicidal ideation among university students and address related stressors. The qualitative findings revealed that psychological and socio-contextual stressors—particularly academic stressors—led to feelings of failure, emotional exhaustion, and academic burnout, which consequently contributed to suicidal ideation among student survivors. Participants' narratives clearly illustrated how excessive course loads, high academic expectations, and fear of failure eroded their emotional resilience, triggering cognitive rigidity, anxiety, depression, and hopelessness. This finding robustly aligns with Madigan et al. (2021), who emphasized the detrimental impacts of academic burnout on students’ mental health. Similarly, Gao (2023) noted that by addressing course pressures and academic burnout, educational institutions could foster more supportive environments and mitigate negative mental health outcomes among students.

Contextual support systems also emerged as both risk and protective factors. The study's findings revealed that barriers to accessing mental health services, dissatisfaction with available therapeutic care, low help-seeking behavior, and inadequate support systems, like poor teacher-student relationships and communication, exacerbated suicidal risk within educational environments. These results are consistent with previous research that underscored the impact of inadequate mental health service access (Campbell et al., 2022;

Dosil-Santamaria et al., 2022), dissatisfaction with care (Oladele et al., 2024; Oguntayo et al., 2022), and insufficient institutional support (Buhari et al., 2021; Dosil-Santamaria et al., 2022) on increased suicidality among students.

Moreover, beyond institutional challenges, the qualitative phase also uncovered personal adversities. Exposure to interpersonal violence in the family, including bullying and parental conflict, the findings are similar to Angelakis et al. (2020) and Berny and Tanner-Smith (2024), further emphasizing how adverse family dynamics exacerbate psychological vulnerabilities. Moreover, social support, particularly through meaningful communication, was identified as a critical protective factor, consistent with findings from Arenson et al. (2021). The qualitative narratives also confirmed that study-life imbalance and strained student-teacher relationships are significant contributors to suicidal ideation, echoing earlier work by Buhari et al. (2021) and Oguntayo et al. (2022).

Familial stressors played a substantial role in influencing students' mental health outcomes. The participants shared experiences of financial crises, parental neglect, overbearing expectations, and having family members with mental illness. These qualitative results are in line with previous literature (Cabello-Rangel et al., 2020; Tracy, 2022), emphasizing that economic strain, emotional neglect, and unrealistic expectations heighten emotional dysregulation and feelings of burdensomeness, thereby amplifying suicidal ideation.

Also, a history of bullying emerged as a critical factor contributing to suicidal ideation among college students in the qualitative phase of this study. All forms of bullying had been being linked to suicidal ideation in individuals (Mishna et al., 2021; Wang, Bragg et al., 2023). Past research consistently indicated that bullying is a significant risk factor for suicide in various social contexts, including familial, educational, and communal environments (Clare et al., 2018; Wang, Bragg et al., 2023).

According to Acosta-Gutiérrez et al. (2024), addressing psychosocial factors across various levels of the social-ecological model, the risk factors of suicidal ideation could be mitigated through comprehensive ecosystems and community collaborative approaches. Therefore, these findings are suggestive of pointers to suicide prevention in a holistic way and not in isolation from socio-community factors, targeting systemic reforms across societal

levels rather than focusing solely on individual psychological symptoms alone in policy and practice in the state of Chihuahua and Mexico as a whole.

The triangulation of these findings strengthened the interpretation of the quantitative results, which had already shown that depression, cognitive rigidity, environmental crisis worry, and anxiety were key predictors of suicidal ideation (American Psychological Association [APA], 2024; Colodro-Conde et al., 2018; Zullo et al., 2022). The qualitative phase deepened this understanding by revealing how the interplay between depression, low belongingness, and perceived burdensomeness manifested in real-life scenarios, leading to emotional breakdowns and suicide attempts. This supports prior studies that emphasized the interconnectedness of these psychological factors with suicidality (Nielsen et al., 2020; Taylor et al., 2023).

Qualitative phase findings showed perceived burdensomeness and low belongingness played roles in suicidal ideation triggers among participants, this could implies that these factors may function as central psychological mechanisms that intensify the impact of various stressors found to be associated with suicidal ideation in the quantitative phase, such as being younger, being gender diverse, poor academic performance, lack of scholarships, anxiety, depression, cognitive rigidity, and environmental degradation worry. According to the Interpersonal Theory of Suicide (Joiner et al., 2005; Chu et al., 2020), perceived burdensomeness — the belief that one is a liability to others — heightens feelings of worthlessness and amplifies the distress caused by academic failure, financial hardships, and social exclusion. Young individuals and gender-diverse students, often facing systemic marginalization (Bedford et al., 2023; Day & Brömdal, 2024), may internalize societal rejection as a personal failing, thereby intensifying their sense of being a burden. Similarly, students struggling academically or without scholarships may experience cumulative economic and performance-related stress, which, when filtered through a burdensomeness lens, leads to heightened feelings of guilt and despair, leading to pain and hopelessness, exacerbating suicidal ideation as put by Klonksy et al. (2015). Moreover, psychological vulnerabilities like anxiety, depression, and cognitive rigidity may further erode emotional flexibility, making it difficult for student survivors to reframe negative beliefs about

themselves, thus reinforcing the perceived burden and fueling suicidal ideation (Madigan et al., 2021; Zullo et al., 2022).

Low belongingness as a finding in the qualitative phase helped to explain risk factors found in the quantitative phase better, low belongingness is defined as the persistent feeling of not being meaningfully connected to others (Joiner, 2005); this may further exacerbate the discovered stressors in the first phase depriving students of critical emotional buffers. Recent studies suggest that belongingness acted as a psychological safeguard against stress by fostering emotional regulation and resilience (Li et al., 2023; Arenson et al., 2021).

In the absence of belongingness, experiences such as environmental degradation worry, academic burnout, and being discriminated against as LGBTQ+, which could induce existential anxiety, become magnified, as students may feel isolated in their concerns without communal support or shared coping mechanisms. Furthermore, low belongingness diminishes the protective effects of social support and resilience identified in the quantitative findings, as students detached from meaningful relationships are less likely to seek or benefit from external help (Calati et al., 2019; Bayliss et al., 2024). This deepens emotional distress and solidifies feelings of helplessness. Thus, perceived burdensomeness and low belongingness are not merely parallel risk factors but potent catalysts that psychologically and socially embed other stressors into the trajectory toward suicidal ideation, reinforcing the multifaceted nature of suicide risk among university students.

In addition, the study identified low resilience and low social support as aggravating factors for suicidal thoughts among college students. These findings complemented the quantitative results, corroborating earlier research that highlighted resilience and social support as critical buffers against suicidality (Bayliss et al., 2024; Calati et al., 2019; McClay et al., 2020). Qualitative narratives revealed that low resilience impaired students' ability to cope with academic and social stressors, leading to heightened emotional vulnerability and a stronger perception of stress as distress rather than eustress. Thus, interventions should focus not only on symptom management but also on fostering resilience through emotional regulation training, stress reappraisal techniques, and structured social support networks.

Importantly, the qualitative results uncovered additional psychosocial dimensions not fully captured in the quantitative phase, thereby reinforcing and deepening the findings

through methodological triangulation. For instance, students' detailed descriptions of family dynamics, including economic hardships and parental mental health issues, exposed specific risk mechanisms that quantitative measures alone could not elucidate. These findings are consistent with Wang et al. (2022) and Olaseni et al. (2021), who emphasized the burden of familial stress on student mental health which exacerbated suicidal ideation.

Furthermore, the qualitative data offered critical insights into environmental degradation worry, which was found to be a significant predictor of suicidal ideation in the quantitative phase. This is similar to studies of Oguntayo (2023) and Clayton et al. (2021). This could be implied that existential concerns about climate change and the global warming crisis contributed to feelings of helplessness and hopelessness that exacerbate suicidal thoughts. These qualitative results elaborated and provided evidence to enrich the results of the current study to understand how global environmental concerns extend beyond worry to exacerbate personal mental health crises that could lead to suicidal ideation.

Moreover, the adoption of an explanatory sequential design in the current study enhanced the integration of findings by systematically supporting and expanding the initial quantitative results through qualitative insights; this methodological approach has contributed to this study's replicability, integrity, robustness, consistency, and potential for generalization (Creswell et al., 2017a; Creswell et al., 2017b; Takona, 2024). Therefore, this approach enabled a more comprehensive understanding of the relationships between demographic variables (e.g., age), psychological factors (e.g., resilience, anxiety, depression, cognitive rigidity), and socio-environmental stressors (e.g., social support, environmental crisis worry) in predicting suicidal ideation. The mixed methods strategy ensured that not only were statistical patterns identified, but also that the underlying psychological and contextual processes were meaningfully explored, thereby enhancing the study's scientific rigor and applicability for intervention development.

In summary, this study's triangulated findings confirm that addressing suicidal ideation among university students requires a multidimensional approach. Psychological interventions must target depressive symptoms, anxiety, cognitive rigidity, perceived burdensomeness, academic burnout, poor student-teacher relationships, study-life imbalance, and low belongingness, while simultaneously promoting resilience and building supportive

academic and familial environments. Educational institutions must also work toward mitigating academic pressures and improving access to quality mental health services. Such comprehensive, evidence-based strategies are essential for effectively reducing suicidal ideation and promoting mental well-being among university populations.

Triangulation of the Results through an Explanatory Sequential Approach

a. Quantitative and Qualitative Phases (Explaining Demographic and Psycho-maladaptive Variables): Both phases revealed significant associations between school-based contextual factors, including academic stressors like course burnout and scholarships, and psychological and environmental factors such as resilience, social support, cognitive rigidity, anxiety, depression, and environmental degradation concerns as key determinants of suicidal ideation. The negative association between age and suicidal ideation aligns with existing literature, suggesting that younger individuals face greater psychosocial stress, while older individuals benefit from enhanced coping mechanisms. Cognitive rigidity, anxiety, environmental crisis worries, and depression emerged as significant predictors, with resilience and social support mediating the relationship between anxiety and suicidal ideation.

b. Qualitative Phase (Other rich Narratives Supporting Psychosocial Stressors): The qualitative findings complimented qualitative results by finding and affirming all the variables found to determine suicidal ideation and further provided additional variables for deeper understanding of risk factors of suicidal ideation outside the results findings of the quantitative study which created insight into how students' social, demographic, contextual and psychological experiences or factors contributed to distress that exacerbated suicidal ideation, such factors involved socio-contextual stressors (academic burnout, unrealistic parental academic performance expectations, poor study life imbalance, student-teacher poor relationships, low social support and limited access to mental health services; also familial stressors (parental conflicts, interpersonal violence, domestic bulling, sickness or mental health challenge of relatives and financial problems), psychological stressors (environmental worry, anxiety, depressive symptoms, low resilience, cognitive rigidity, perceived burdensomeness to others, and low sense of belongingness were highlighted as

contributory factors to suicidal ideation. These findings reinforced the role of psychosocial stressors in this study, further emphasized and illustrated how difficulty in adapting to those stressors exacerbates hopelessness and pains embedded in unmet psychological expectations or needs, such as anxiety, belongingness, burdensomeness, burnout, low support, depressive symptoms etc., as explained by Klonsky et al. (2015)'s Three Steps Theory and Joiner (2005)'s Interpersonal Psychological Theory. Resilience and social support were identified as crucial in either mitigating or amplifying suicidal ideation, depending on whether they are high or low, as explained in the risk and protective factors concepts of Engel's Biopsychosocial model (Engel, 1977 in Bolton, 2023) and Diathesis stress model of Meehl (1962). These findings extended the understanding of the psychological impact of stressors, particularly the novel influence of environmental degradation worry on mental health.

Discussion with Integrative-Substantive Theory

The Three-Step Theory (3ST) (Klonsky et al., 2015) and the Interpersonal Psychological Theory of suicidal behavior (Joiner, 2005) were adopted to discuss and align with the findings of this study effectively. Both theories provided valuable insight into understanding the psychological and environmental factors influencing suicidal ideation, particularly within the context of psychosocial and academic stressors, cognitive vulnerabilities, and mental health support systems.

Klonsky and May's Three-Step Theory explains suicidal ideation through three progressive stages: pain and hopelessness, connectedness, and the capacity to attempt suicide. Pain and hopelessness, according to 3ST, involved the initial step of experiencing psychological pain, often coupled with feelings of hopelessness. This assertion closely aligns with the findings of this study, which indicate that academic stressors, cognitive rigidity, environmental crisis worry, anxiety, and depression significantly contributed to suicidal ideation. The academic stressors and environmental degradation concerns serve as sources of psychological pain, exacerbating feelings of hopelessness. The qualitative narratives

highlighted the emotional burden that arises from unmet academic expectations, academic burnout, and familial challenges, which mirrors the hopelessness explained in 3ST.

Secondly, connectedness, the second step in 3ST, emphasized that the presence or absence of connectedness determines the intensity or decrease of suicidal ideation. The findings in this study showed that resilience and social support acted as mediators in the relationship between depression, cognitive rigidity, worry about environmental degradation, anxiety, and suicidal ideation, highlighting the protective role of connectedness. Students who reported stronger social support networks, whether from teachers, family, or friends, were more resilient in the face of stressors, demonstrating the buffering effect that connectedness can have in preventing suicidal ideation from escalating.

The capacity to attempt suicide—this final stage in 3ST pertains to an individual's acquired capability to act on suicidal thoughts, influenced by habituation to pain or exposure to violence. Although this study does not explicitly focus on the acquired capability for suicide, the qualitative narratives of interpersonal violence (e.g., exposure to family conflict or bullying) provide insight into how some students may develop a higher tolerance for psychological pain, thus progressing toward suicidal behavior. An individual's likelihood of transitioning from ideation to attempt may increase due to exposure to violence or family conflict and limited access to mental health care.

According to Joiner's (2005) theory of suicidal behavior, the emergence of suicidal ideation occurs when two psychological states are present: (a) thwarted belongingness and (b) perceived burdensomeness. These states, when combined, can lead to a desire for suicide. Additionally, habituation to fear and pain develops the capability to act on this desire. Joiner's concept of thwarted belongingness aligns with the study's findings on social isolation and poor student-teacher relationships. The lack of meaningful social support and dissatisfaction with mental health services exacerbated feelings of alienation among students. These factors contributed to a feeling of not belonging or receiving support, potentially leading to suicidal ideation. The study also revealed that academic pressure or stressors, along with feelings of inadequacy in navigating academic expectations, can contribute to feelings

of exclusion, particularly among students who are struggling academically. This can create a sense of no meaningful existence, potentially leading to suicidal thoughts.

The study's findings on familial financial crises and worry about environmental degradation mirror this dimension of IPT. Students who face financial stressors or who perceive themselves as burdens due to their inability to meet familial or societal expectations may internalize these pressures, fostering a sense of perceived burdensomeness. Additionally, the novel finding links eco-anxiety, or worry about environmental degradation, to suicidal ideation, suggesting that students may feel burdened by the weight of global environmental challenges, perceiving themselves as powerless or unable to contribute meaningfully to solutions.

Finally, Joiner's third component—the acquired capability for suicide—posits that this capability involves a reduced fear of death and an increased tolerance for physical pain, often developed through repeated exposure to painful or provocative experiences. The study's findings on exposure to familial conflict and bullying history align with this aspect of IPT. Violence or bullying may desensitize students to pain and fear, thereby increasing their capacity to act on suicidal thoughts. The narratives from student survivors highlighted the role of these stressors in eroding resilience and increasing vulnerability to suicidal behavior.

Integrating Theories with the Study's Findings

The key theories used in this study are the Three-Step Theory (Klonsky et al., 2015) and Joiner's (2005) Interpersonal Psychological Theory. The study's findings provide a comprehensive understanding of the psychosocial, cognitive, and environmental stressors that contribute to suicidal ideation. Both theories emphasize the progression from ideation to potential action, with social support (or lack thereof), connectedness, and resilience serving as critical mediators. (a) Psychological Vulnerabilities: Both theories align with the finding that cognitive rigidity, anxiety, academic burnout, and depression are significant predictors of suicidal ideation. Klonsky et al. (2015) concentrated on psychological pain, while Joiner's concept of thwarted belongingness underscores how these mental health challenges can

intensify feelings of hopelessness and isolation, thereby heightening the likelihood of suicidal thoughts.

(b) Environmental Stressors or Eco-Anxiety: The study's novel finding regarding the impact of environmental degradation worry introduces a new dimension to the existing theories. Although neither theory directly tackles environmental issues, one can expand both frameworks to understand the psychological impact of eco-anxiety, particularly when it comes to perceived burdensomeness. Students may feel powerless in the face of environmental degradation, viewing themselves as unable to contribute to meaningful change and thus deepening their feelings of despair. (c) Social and Academic Support: Both theories emphasize the importance of connectedness and belonging, which are reflected in the study's findings on resilience and social support. The role of academic stressors—including scholarships and burnout—highlights how educational environments can either mitigate or exacerbate suicidal ideation depending on the availability of supportive structures.

Also, as posited earlier in the theoretical framework section, the phenomenon of the risk and protective factors of suicidal ideation could be more comprehensively understood through Engel's (1977) Biopsychosocial Model (BPS), which recognizes the complex interplay of biological, psychological, and social dimensions of human functioning. Building on this, Bolton (2023) advocated for a nuanced, integrative approach to mental health, emphasizing the dynamic interdependence of contextual and individual-level factors. Additionally, the Diathesis-Stress Model complemented these perspectives by elucidating how inherent vulnerabilities or risk factors (diatheses) interact with external stressors to precipitate psychopathological outcomes such as suicidal ideation.

In this study, the findings of socio-contextual factors such as academic burnout, unrealistic parental expectations, poor study-life balance, strained student-teacher relationships, low social support, and limited access to mental health resources were implied as significant psychosocial risks or stressors (Lee et al., 2021; Chen et al., 2022). These risk factors or stressors align with the social component of the BPS model, as they reflect institutional and interpersonal challenges that compromise students' well-being. More so, familial dysfunction, including parental conflict, domestic violence, bullying, financial challenges, and mental health of relatives or illness in the family, contributed to

suicidal ideation by undermining perceived safety and emotional stability (Huang et al., 2022). These fall within both the social and psychological risks concepts of Engel's model, as these factors are capable of disrupting developmental attachment processes and cognitive-emotional regulation.

Also, psychological stressors such as environmental worry, anxiety, depressive symptoms, low resilience, cognitive rigidity, perceived burdensomeness, academic burnout, and low sense of belonging are central in the psychological and biological domains of the BPS model (Remes et al., 2021). For instance, neurobiological factors, including dysregulated hypothalamic-pituitary-adrenal axis functioning and serotonergic deficits, may underpin vulnerability to stress from psychosocial environments (Alabdallat et al., 2024).

From a diathesis-stress perspective, the stressors (risk factors) found in this study may not directly cause suicidal ideation but could serve as triggers in individuals with predisposing vulnerabilities, such as high cognitive rigidity, academic burnout, history of environmental trauma, low social support, belongingness, and burdensomeness (Joiner, 2005; Alabdallat et al., 2024). Conversely, protective factors like robust peer networks, social support, and cognitive resilience school-based mental health interventions, with positive student-teacher rapport could serve as buffers, mitigating the impact of stress and enhancing resilience to prevent suicidal thoughts or its stressors (Wang et al., 2022).

Moreover, individuals from high-conflict or economically strained households may develop cognitive schemas characterized by hopelessness and perceived burdensomeness—key proximal predictors of suicidal ideation (Van Orden et al., 2010). Protective familial environments characterized by emotional warmth, open communication, and economic stability could help cultivate psychological resilience and a sense of belonging (Kapetanovic & Skoog, 2021). In addition, the intrapersonal variables often serve as diatheses, which, in interaction with acute stressors (e.g., academic failure or relational illness/ loss), could precipitate suicidal ideation. Importantly, interventions aimed at enhancing cognitive resilience, which build in cognitive flexibility, emotion regulation, communication skills, gratitude, positivity, and meaning to life and social connectedness, etc., into their modules, have been shown to attenuate suicidal ideation in at-risk youth (Liu et al., 2022; Oguntayo et al., 2024a; Oguntayo et al., 2024b).

An integrative framework combining Engel's Biopsychosocial Model, Bolton's (2023) contemporary mental health perspectives, and the Diathesis-Stress Model enables a nuanced understanding of suicidal ideation. Risk arises from the convergence of psychological vulnerabilities and environmental stressors, while protective factors—rooted in social support, emotional regulation, and access to care—could mitigate these risks. This implies that interventions involving a multidimensional approach, targeting academic stress, individual, familial, and systemic levels be fostered to effectively prevent suicidal ideation.

Implications for Interventions

The integration of 3ST and IPT with this study's results underscores the need for multifaceted mental health interventions that address both psychological and environmental factors. Interventions should focus on: (i) enhancing social support networks and resilience-building programs to reduce feelings of thwarted belongingness and increase connectedness. (ii) Addressing academic pressures and promoting healthy coping mechanisms to mitigate psychological pain and reduce the perception of burdensomeness. (iii) Incorporating environmental stress and eco-anxiety into mental health frameworks, recognizing it as a significant contributor to students' mental health challenges.

Stakeholders should integrate mental health considerations into climate action plans at both the local and state government levels in Chihuahua and across Mexico. A multidisciplinary approach to environmental crises is essential, including the establishment of interdisciplinary research groups to inform policy on environmental strategies. These efforts should also address eco-psychological risk factors associated with climate threats such as water scarcity, various forms of pollution, and extreme weather conditions, all of which contribute to psychosocial stressors linked to suicidal behavior in the region. Additionally, stakeholders at the university should empower mental health and health practitioners by training them more to collaborate with the university community and parents to manage the challenges regarding psychosocial and academic stressors of suicide and to be able especially reduce the climate change worry. Beyond tertiary institutions, public policymakers should strengthen the public primary health care system by providing human resource tools and

psychological interventions aimed at enhancing emotional coping and resilience among affected populations.

In summary, by integrating Klonsky and May's 3ST and Joiner's IPT with the study's findings, the research has gained a richer understanding of the psychosocial and environmental factors contributing to suicidal ideation and the pathways through which these factors interact or serve as contributory factors. This integration offers a more comprehensive approach to designing interventions that address the complex interplay of individual vulnerabilities and social-environmental stressors in university settings.

Conclusion - Contribution

This study integrated socio-demographic factors (such as age, gender diversity, poor academic performance, and lack of scholarship) alongside social stressors (including environmental degradation worry and perceived social support) and psychological factors (anxiety, cognitive rigidity, and depression) into a comprehensive analysis of suicidal ideation. By examining how these variables interact to exacerbate emotional distress, the study provided a holistic understanding of the pathways leading to suicidal thoughts among university students.

Quantitative results showed significant evidence of the mediating roles of resilience and social support in the relationships between psychological distress, environmental stressors, and suicidal ideation. These mediators were found to be critical in buffering against the negative impacts of mental health challenges. Thus, the results suggest that interventions focused on enhancing resilience and strengthening social support systems could serve as effective strategies in mitigating the development of suicidal ideation.

Qualitative findings further deepened the understanding of these phenomena stressors of the suicidal ideation by highlighting individual psychological vulnerabilities—including depression, low resilience, perceived burdensomeness, low belongingness, environmental degradation worry, low social support, and cognitive rigidity—as well as external social factors such as academic pressure, academic burnout, unmet parental expectations, low help-seeking behavior, dissatisfaction with mental health services,

inaccessible mental health services, familial interpersonal violence, sickness or mental sickness of relatives, bullying experience, familial financial constraints, and study-life imbalance. Together, these findings illustrate the complex, interdependent relationships among various risk and protective factors influencing students' mental health.

The explanatory sequential design employed in this research underscored the value of methodological triangulation, enriching the quantitative results with qualitative perspectives. This approach demonstrated that socio-psychological stressors, including academic pressure, lack of contextual support, familial adversity, and exposure to interpersonal violence, function both as risk and protective factors in the formation of suicidal ideation among university students. These findings advocate for the need for holistic, multidimensional intervention strategies.

To advance preventive efforts, it is imperative to foster individual awareness and proactive engagement among teachers, students, and staff through structured institutional initiatives and supportive policies. Institutions should prioritize reducing academic pressures, alleviating burnout, enhancing access to mental health services, and addressing familial challenges, including domestic crises and violence prevention. Adjustments to academic programming should promote a healthier balance between study and life responsibilities, while fostering positive teacher-student relationships and communication. Additionally, mental health units within institutions should create awareness campaigns to encourage help-seeking behavior, educate parents on recognizing mental health symptoms, and enhance teacher-student interaction. Systematic follow-up for students facing economic hardship, facilitated by stronger collaboration with parents and community networks, is equally vital.

In summary, the findings of this study provided a nuanced perspective on the constellation of risk and protective factors contributing to suicidal ideation among university students. Protective factors such as resilience, social support, older age, not identifying as LGBTQ+, good academic performance, and access to financial aid (scholarship) emerged as significant in mitigating suicide risk. Conversely, cognitive rigidity, perceived burdensomeness to others, perceived low belongingness, low access to mental health services, unsatisfactory with the used mental health services, familial mental health crises,

academic burnout, course pressure, financial hardship, interpersonal violence in the family, parental conflict, bullying, study life imbalance, low help seeking behavior, poor student-teacher relationship, anxiety, depression, and environmental degradation worry were identified as exacerbating factors of suicidal ideation.

This study made a significant contribution to the expanding body of scholarly literature that underscores the pivotal influence of social, psychological, and environmental dimensions in the promotion of mental health and the prevention of suicide. Specifically, it advanced knowledge by emphasizing the importance of strengthening resilience capacities, fostering social affiliation, enhancing the availability and quality of social support structures, and addressing psychological vulnerabilities, such as cognitive rigidity, distressing social, familial, and academic environments, and overall psychological distress. These insights offer valuable implications for policy development. Furthermore, the findings provided a strong rationale for the redesign and improvement of university mental health programs to more effectively mitigate the risk of suicidal ideation among vulnerable student populations. They also highlighted the necessity for future research and policy initiatives to continually integrate these perspectives to cultivate healthier, more supportive educational environments.

Table 10.

Showing the scheme of the study's contribution (hypotheses)

Hypothesis 1 - Relationship Between Age, Psychological and Social-Environmental Factors, and Suicidal Ideation

Variable	Findings
Age	Significant negative relationship with suicidal ideation. Younger individuals experience more suicidal ideation.
Resilience	Negative relationship with suicidal ideation. Higher resilience lowers the risk of suicidal ideation.

Variable	Findings
Social Support	Significant mediator. Higher social support lowers suicidal ideation.
Anxiety	Positive relationship. Higher anxiety increases suicidal ideation.
Depression	Strong positive predictor of suicidal ideation.
Cognitive Rigidity	Positive relationship. Cognitive rigidity exacerbates suicidal ideation.
Environmental Degradation Worry	Significant positive relationship with suicidal ideation, particularly among younger participants.

Hypothesis 2 - Joint and Independent Prediction of Suicidal Ideation by Demographic, Psychological, and Environmental Variables

Variable	Joint Prediction	Independent Prediction
Age	Jointly predicts suicidal ideation with psychological factors.	Independently lowers suicidal ideation with increasing age.
Sex	No significant independent effect was found.	
Relationship Status	Marginal contribution to prediction when combined with other factors.	

Variable	Joint Prediction	Independent Prediction
Scholarship Status	Jointly protects against suicidal ideation.	Independently lowers risk when supported by academic scholarships.
Sexual Orientation	Minor contribution, with significant independent effect.	Independently worsens suicidal ideation.
Anxiety	A strong independent predictor of suicidal ideation.	Higher anxiety predicts higher suicidal ideation.
Depression	Jointly predicts suicidal ideation with other factors.	Independently worsens suicidal ideation.
Social Support	Significant joint predictor in reducing suicidal ideation when combined with resilience.	Independently impacted suicidal ideation.
Resilience	Significant joint predictor in reducing suicidal ideation	Independently impacted suicidal ideation
Cognitive Rigidity	Jointly predicts suicidal ideation.	Independently increases suicidal ideation.
Environmental Degradation Worry	Jointly predicts with psychological factors.	Independently increases suicidal ideation, particularly among younger students.

Hypothesis 3 - Mediation of Resilience and Social Support in Relationships Between Psychological Factors and Suicidal Ideation

Mediated Variable	Resilience Mediation	Social Support Mediation
Anxiety	Resilience reduces the impact of anxiety on suicidal ideation.	Social support significantly lowers the effects of anxiety on suicidal ideation.
Depression	Resilience mitigates depressive effects on suicidal ideation.	Social support weakens the direct impact of depression on suicidal ideation.
Cognitive Rigidity	Resilience counteracts cognitive rigidity's effect on suicidal ideation.	Social support reduces the influence of cognitive rigidity on suicidal ideation.
Environmental Degradation Worry	Resilience buffers against the negative impact of eco-anxiety on suicidal ideation.	Social support mediates environmental concerns' effects on suicidal ideation.

Hypothesis 4 - Qualitative Phase Insights on Mental Health Needs and Protective Factors for Suicidal Ideation

Themes	Sub-categories of the Qualitative Findings
Academic Pressure	High academic demands and high expectations were reported as stressors, linked to burnout and suicidal ideation.
Familial Problems	Interpersonal violence in the family, mental of relatives, lack of family support, parental violence, bullying, etc., intensified feelings of isolation and contributed to suicidal ideation.

Themes	Sub-categories of the Qualitative Findings
Access to Mental Health Services	Limited access to mental health services, dissatisfaction with services rendered, low help-seeking support, etc., were frequently reported, underscoring the need for better care systems.
Psychological factors	Respondents expressed low resilience, low social support, perceived low belongingness, and perceived burdensomeness to others as contributory factors to or stressors of suicidal ideation.
Social Stressors	Poor teachers, peer or relative support networks, and study life imbalance were seen as risk factors against suicidal ideation.
Environmental Stress	Concerns about environmental degradation were novel stressors affecting mental health, particularly among younger participants.

Critique of Public Policy

The findings of this study revealed significant gaps in current public policies addressing mental health, especially in the university community in Mexico, particularly regarding educational environments, social support systems, and environmental stressors. These gaps suggest that existing policies may not be fully equipped to address the complex interplay of psychological, social, and environmental factors influencing suicidal ideation among students. A critical review of public policy in light of these findings highlights several areas for improvement.

While many educational policies emphasize academic achievement, there is a notable absence of strong, well-funded mental health infrastructures within universities. This study highlights how academic pressures, including burnout and the stress associated with maintaining scholarships, contribute significantly to suicidal ideation. Current policies might overlook the mental health needs of students, focusing on academic performance metrics

rather than providing comprehensive support for psychological well-being. Public policy should shift toward a preventive framework, integrating regular mental health screenings, counseling services, and resilience-building programs into the core structure of university life (Jones et al., 2020; Smith et al., 2022).

The findings emphasized the critical role of social support in mediating the effects of anxiety and other psychological stressors on suicidal ideation. However, public policies might have failed to foster environments that encourage strong peer support networks, mentorship, or counseling programs in academic settings. This is particularly concerning in light of the increasing mental health challenges faced by students globally. Policymakers should focus on strengthening social support structures within educational institutions by providing resources to establish mentorship programs, peer counseling, and accessible on-campus mental health services. Additionally, digital mental health platforms should be integrated into public policy to expand access to care (Smith & Harris, 2019).

A novel and significant finding of this study is that the impact of environmental degradation worry on student mental health exacerbates suicidal ideation. Despite the growing discourse on climate change and eco-anxiety (Clayton et al., 2022; Oguntayo et al., 2022; Oguntayo, 2023), public mental health policies rarely address the psychological impact of environmental stressors. Younger populations, in particular, are increasingly affected by climate anxiety (Oguntayo, 2023), yet mental health policies fail to incorporate this emerging area of concern. Public policies need to recognize eco-anxiety as a legitimate mental health concern and integrate climate resilience into mental health strategies. This could involve policies that promote environmental education, climate change mitigation efforts, and psychological support for those experiencing eco-anxiety, particularly in younger populations (Pihkala, 2020).

The study identifies age as a significant variable influencing suicidal ideation, with younger individuals facing more severe psychosocial stressors. However, public mental health policies often fail to provide age-specific interventions that target the unique psychological challenges faced by different age groups. Policymakers should develop age-specific interventions that provide younger students with emotional regulation tools, coping

strategies, and educational support that mitigate the pressures of academic life (Robinson & Turner, 2022).

The qualitative findings underscore the dissatisfaction with mental health services among students, particularly regarding the accessibility and quality of care. Many students report difficulties accessing timely and effective mental health interventions, which points to systemic issues in the availability of services. Public policy often overlooks the systemic barriers that prevent students from accessing mental health care, including long wait times, a lack of mental health professionals, and limited funding for university-based services. Policymakers should prioritize reducing these barriers by increasing funding for mental health services, expanding digital platforms for care, and ensuring that services are available during critical periods of academic stress (Jones et al., 2020).

The cultural context of mental health is another area where current public policies fall short. The study suggests that psychosocial stressors, such as familial problems and lack of social support, are culturally influenced. By implication, Chihuahua's mental health crisis is not simply individual, but a product of interlocking ecological, demographic, political, and environmental vulnerabilities (Acosta-Gutiérrez et al., 2024). Therefore, mental health policies often fail because they fail to consider the cultural nuances that shape community and individuals' experiences of stress, particularly among marginalized groups. Policymakers should work toward integrating mental health crisis of individuals into interlocking nature of community such as considering ecological, demographic, political, and cultural factors as well as environmental vulnerabilities competence into mental health frameworks, ensuring that care providers are trained to understand and address these specific cultural contexts of the students or clients they serve (Smith & Harris, 2019).

Recommendations for public policy

The findings of this study suggest that a comprehensive, integrative approach to mental health interventions is necessary to address the psychological, social-environmental, and academic stressors contributing to suicidal ideation. Recommendations for prevention and care were framed within the theoretical lenses of Klonsky et al. (2015)'s Three-Step Theory (3ST) and Joiner's (2005) Interpersonal Psychological Theory (IPT), alongside

insights drawn from the study's triangulated quantitative and qualitative data. These recommendations focus on enhancing resilience, strengthening social support networks, and incorporating environmental stressors into mental health frameworks, while also improving accessibility to mental health care for students thus:

(a) Resilience-Building and Psychological Interventions: The study emphasizes the need for resilience-building interventions to mitigate the impact of psychological vulnerabilities such as cognitive rigidity, anxiety, and depression, all identified as significant predictors of suicidal ideation. As part of prevention strategies, resilience-focused therapies such as Cognitive Resilience Therapy, cognitive behavioral therapy, and mindfulness-based interventions are recommended to foster adaptive thinking patterns and emotional regulation skills (Balk, 2020; Oguntayo et al., 2024). These programs should be age-specific, with younger students benefiting from tailored interventions that target emotional resilience. By improving resilience, students may be better equipped to manage academic pressures and personal stressors, reducing the risk of suicidal ideation (Joiner, 2005). Moreover, this aligns with Klonsky et al. **(**2015**)'s** first two steps of 3ST, which highlight the escalation from ideation to planning through psychological vulnerabilities like cognitive rigidity and anxiety.

(b) Strengthening Social Support Networks: The findings underscore the critical role of social support in mitigating the effects of psychosocial stressors. In line with Joiner's (2005) framework, which identifies thwarted belongingness and perceived burdensomeness as key contributors to suicidal ideation, interventions should focus on fostering stronger peer relationships and mentorship programs within academic environments. Peer-support networks and family outreach initiatives can alleviate feelings of isolation and help students navigate academic and personal challenges (Smith et al., 2023). These initiatives are particularly important for students lacking familial support or facing interpersonal conflicts, which were identified as contributors to suicidal ideation in the study's qualitative phase. Promoting a sense of belonging through group counseling and community-building activities can reduce the risk of suicidal ideation by addressing the core interpersonal deficits outlined in IPT.

(c) Targeted Mental Health Services: The findings point to the need for accessible mental health services tailored to students' academic and demographic profiles. Younger students, who may face more intense psychosocial stressors, require interventions that specifically address age-related challenges in emotional regulation and coping strategies (Klonsky & May 2015). Digital mental health platforms and teletherapy services should be expanded to meet the needs of students in high-stress environments, particularly during peak academic periods (Robinson & Turner, 2022). These services should be complemented by culturally sensitive approaches that take into account the diverse backgrounds of the student population. The study highlighted dissatisfaction with the availability and quality of mental health services, calling for institutions to improve access, reduce wait times, and offer more flexible, student-friendly care options.

(d) Addressing Environmental Stressors in Mental Health Frameworks: A novel finding in this study was the significant association between environmental degradation worry and suicidal ideation, particularly among younger populations. This emerging risk factor necessitates the integration of eco-anxiety into mental health frameworks (Pihkala, 2020). Universities should incorporate climate resilience education and eco-anxiety workshops into their mental health offerings, helping students process environmental concerns in constructive ways. By addressing both personal and environmental stressors, institutions can create more holistic mental health strategies that reduce feelings of helplessness associated with climate change and environmental degradation (Clayton, 2020). This aligns with the Three-Step Theory's (3ST) third step, which focuses on escalating ideation when life stressors, such as eco-anxiety, become overwhelming without adequate coping mechanisms (Klonsky et al., 2015).

(e) Awareness to Promote Climate Change Education: Stakeholders should begin a policy that could be implemented to aid public education programs both within institutions and community settings to inform residents about climate change risk factors and human actions that could reduce climate change while investing in greenhouses or spaces, urban cooling initiatives, and community garden

palliative interventions, which have been shown to reduce eco-anxiety and improve collective mental health.

(f) Reducing Academic Pressure and Burnout: The study identified academic stress and course burnout as key determinants of suicidal ideation, suggesting that interventions must address the academic environment itself. Universities should implement academic wellness programs that provide students with resources for managing time, reducing stress, and seeking academic support when needed (Balk, 2020). Additionally, flexible course structures and stress-relief activities during exam periods can help mitigate the intense pressures students often face, particularly those who may struggle academically or feel overwhelmed by scholarship obligations. By reducing academic pressure, institutions can decrease the burden of suicidal ideation, particularly among students facing the combined effects of academic burnout and personal stressors.

(g) Family-Oriented Interventions: Given the role of background familial factors as stressors, it is recommended that stakeholders implement family-oriented interventions as a primary approach for the prevention and treatment of suicidal behaviors among Hispanic young adults (Torres et al., 2022). Strengthening family relationships through targeted interventions may reduce the impact of familial stressors and thereby lower the risk of suicidal ideation.

(h) Community-Based Programs Involving Family Collaboration: It is further recommended that stakeholders develop community-based intervention programs that actively involve both young adults and their families (Acosta-Gutiérrez et al., 2024). These programs should address distressing situations and enhance cognitive resilience by incorporating adequate support systems as buffers or coping strategies. Specifically, focusing on familial stressors identified in this study may contribute to a reduction in suicidal behavior. Strengthening community support systems can serve as a protective buffer against suicidal tendencies and promote resilience within the family unit.

(i) Enhancing Mental Health Access and Care: Improving access to mental health services is essential, as students frequently reported dissatisfaction with the current availability and quality of care. Universities should prioritize reducing

barriers to mental health access, particularly by expanding teletherapy options and providing culturally competent care (Smith et al., 2023). Collaborations with community mental health providers can also extend the range of services available to students, ensuring that those at higher risk for suicidal ideation have timely access to the care they need. This aligns with both IPT and 3ST, which emphasize the importance of timely and effective interventions to prevent the progression from suicidal ideation to planning and attempts (Joiner, 2005; Klonsky et al., 2015).

Limitations of the study

This study, while providing valuable insights into the psychosocial and environmental factors contributing to suicidal ideation among students, has several limitations that should be acknowledged. The study employed a cross-sectional design, capturing data at a single point in time. As a result, it was unable to establish causal relationships between the identified stressors (e.g., academic pressure, worry about environmental degradation, etc.) and suicidal ideation. Also, longitudinal studies would be more effective in understanding the temporal relationships and potential causal pathways between these variables, particularly in determining whether interventions lead to sustained reductions in suicidal ideation.

More so, the reliance on self-reported data through surveys and interviews could introduce some potential self-report biases. Participants may have underreported or overreported their experiences of stress, mental health issues, or suicidal ideation due to social desirability or the sensitivity of the subject matter. This could impact the accuracy and reliability of the findings. Furthermore, the anonymity of participants and the use of qualitative interviews may not fully eliminate the effects of this bias.

The study introduced environmental degradation worry as a significant factor in suicidal ideation. While this is an emerging and relevant area of concern, the interpretation of environmental stressors may be highly culturally specific. Further research is needed to understand how different student populations across various global contexts perceive and are

affected by environmental issues. The current study's focus on a single cultural and environmental setting may limit the broader applicability of this finding.

Future research

Building on the findings of this study, several focused directions for future research are proposed as follows:

i. Longitudinal research designs should be employed to be able to track changes in suicidal ideation and psychosocial stressors over time, allowing assessment of causal relationships and intervention effectiveness.

ii. Diverse and Comparative Sampling: Expanding the sample size across diverse geographic, cultural, and educational backgrounds in Mexico and Latin America would enhance generalizability. Also, comparative studies could clarify how different contexts shape suicidal ideation.

iii. Empirical testing of Cognitive Resilience Interventions is needed: To test the efficacy of CRI, future research should replicate and evaluate it through randomized controlled trials as recommended in the protocol and pilot study of this study (Oguntayo et al., 2024a; Oguntayo et al., 2024b) and digital mental health platforms.

iv. Given the emerging significance of environmental crisis worry, future studies should investigate how climate change or environmental degradation in a multidimensional way contributes to eco-anxiety to affect students' mental health. It could involve cross-cultural analyses across different regions of Mexico to identify specific environmental stressors and develop holistic strategies for managing them.

v. Future study may consider sociopolitical factors influencing suicidal ideation in Chihuahua, Mexico, and Latin America as a whole to tame this mayhem at all levels.

vi. Finally, given the sequential explanatory mixed-methods design of this study, future research should adopt experimental or quasi-experimental designs to establish stronger causal relationships between identified psychosocial and environmental stressors and suicidal ideation; such experimental research should

involve the controlled measures in testing the targeted interventions—such as cognitive resilience based programs, eco-anxiety coping strategies, and academic stress management and parent/familial collaboration intervention approaches—to determine their efficacy in reducing suicidal ideation.

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Appendices

Appendix 1. Institutional permits

PROGRAMA DE LICENCIATURA EN PSICOLOGÍA

Centro de Atención Psicológica SURÉ

UACJ | UNIVERSIDAD AUTÓNOMA DE CIUDAD JUÁREZ

Oficio 077/2023.
18 de abril de 2023.

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Coordinador del Doctorado en Psicología UACJ-SNP-CONACYT
Atención. Comité Académico CA-DPS
Dra. Marisela Gutierrez Vega, Directora de Tesis
Dr. Oscar Esparza del Villar, Co Director de Tesis.

Presente.

Por este conducto me permito enviarle un cordial saludo, así mismo en atención al oficio de solicitud con fecha de 31 de marzo del presente año, les comunicamos que nuestra institución **acepta** realizar procesos de investigación para tesis doctoral, en materia de estudios de conducta suicida en estudiantes universitarios, por el alumno **Rotimi Oguntayo,** con matrícula 228170, que está inscrito en el Doctorado de Psicología de la Universidad Autónoma de Ciudad Juárez reconocido por el Sistema Nacional de Posgrado del CONACYT, durante el periodo establecido en su cronograma de proyecto doctoral de mayo de 2023 a diciembre de 2024, observando en todo momento los lineamientos éticos y reglamentos institucionales, con el compromiso de generar acciones de entrega de resultados y retribución social.

Agradeciendo de antemano el apoyo que se sirva brindar al presente, quedo de Usted.

Atentamente.
"Por una vida científica,
Por una ciencia vital"

Mtro. Oscar Jonathan Meléndez Ramírez.
Responsable del Centro de Atención Psicológica SURÉ.

'' 2023. Año de Francisco Villa''

Appendix 2. UACJ Ethics Committee Opinion

UACJ | UNIVERSIDAD AUTÓNOMA DE CIUDAD JUÁREZ

Comité de Ética en la Investigación

Resolución CEI-2023-1-937

Ciudad Juárez, Chihuahua, a 15 de junio de 2023

Rotimi Oguntayo
Dra. Marisela Gutiérrez Vega
Presente.

El Comité de Ética en la Investigación (CEI), después de recibir las recomendaciones atendidas del protocolo de investigación CEI-2023-1-63, denominado "Factores de desajuste sociodemográfico y psicológico como determinantes de la ideación suicida y el desarrollo de un programa de prevención del suicidio basado en intervenciones (I-SPP) en estudiantes universitarios del norte de México", resolvió:

Dictamen favorable

Atentamente
"Por una vida científica
Por una ciencia vital"

Dra. Gwendolyne Peraza Mercado
Presidente del Comité de Ética en la Investigación

Dra. Fany Thelma Solís Rodríguez
Secretaria del Comité de Ética en la Investigación

c.c.p. Archivo.

Appendix 3. Informed consent

i. Fase 1: Carta de consentimiento informado para investigación cuantitativa (Encuesta)

Carta de consentimiento informado

A través de este consentimiento se manifiesta que:

Usted está siendo invitado a participar en el proyecto de investigación "**Factores sociodemográficos y psicológicos del desajuste como determinantes de la ideación suicida y el desarrollo de un programa de prevención del suicidio basado en la irritación (I-SPP) en estudiantes universitarios del norte de México**" que tiene como objetivo analizar cuantitativamente los factores de desequilibrio sociodemográfico y psicológico que determinan la ideación suicida en estudiantes de una universidad seleccionada del norte de México. Este proyecto tiene como objetivo indagar si factores como la edad, el género, el parentesco, ser estudiante indígena o extranjero, el apoyo social percibido, los pensamientos incoherentes, la incapacidad para enfrentar situaciones angustiosas, la adaptación a los problemas del entorno familiar y escolar, la ansiedad, la depresión, la y la preocupación por la degradación ambiental podría llevar a los estudiantes a considerar el suicidio. Se espera que los hallazgos del estudio informen ciertas recomendaciones que podrían hacerse sobre un posible programa de intervención preventiva unificado y modernizado para la universidad seleccionada para aliviar la angustia emocional, que puede conducir al comportamiento suicida.

Los participantes se presentarán **voluntariamente** como estudiantes que hayan firmado el consentimiento informado y sean de la UACJ en el ICSA. Los encuestados pueden salir de la encuesta en cualquier momento. La evaluación se completará una sola vez. Los cuestionarios tendrán una duración de 10 a 20 minutos, por lo que los participantes estarán en un ambiente o lugar adecuado.

Los **riesgos** que se pueden derivar de los procedimientos son el aburrimiento que puede aparecer durante la evaluación de los participantes, sin embargo, habrá un ánimo por parte del investigador y auxiliares de investigación mientras los encuestados atienden los cuestionarios.

El estudio tiene los siguientes **beneficios**: Este estudio predecirá comportamientos humanos que facilitarán el control social para reducir la ideación suicida y construir una comunidad resistente a los problemas que podrían conducir al suicidio. Ayudará a comprender el bienestar de los estudiantes universitarios, particularmente las características disposicionales que llevarán al suicidio dentro de la comunidad. Este estudio avanzará en el conocimiento y ayudará a un nuevo enfoque de los profesionales y los responsables políticos en el tratamiento del comportamiento suicida; también brindará retroalimentación a los estudiantes y la comunidad universitaria al publicar los resultados y almacenar todo el estudio en el repositorio de la UACJ para que los estudiantes, lectores, investigadores y el personal puedan usar el conocimiento para desarrollar resiliencia ante problemas que pueden conducir al suicidio en gratis.

Se me ha explicado que mi participación es **voluntaria** y que puedo abandonar el estudio en el momento que lo desee sin que esto afecte mi relación con profesores y la misma institución. Se me ha garantizado que este estudio proporcionará conclusiones, pero no se divulgará la identidad del participante, y la información sobre el participante se mantendrá en una unidad en la nube protegida y encriptada y solo podrá ponerse a disposición del participante o de una autoridad con una estricta solicitud legal; después de un año, dicha información será eliminada en aras del **anonimato**, la **confidencialidad** y la **protección** de la información del participante. La identidad del estudiante no será revelada cuando se publiquen los resultados; después de todo, el cuestionario no incluirá los nombres de los participantes ni los números de matrícula para garantizar los estándares éticos, así como los derechos de los sujetos a solicitar la destrucción o el anonimato de las muestras biológicas, registros o partes de registros que pudieran considerarse particularmente delicados, como fotografías, cintas de video o de audio, en cuanto a la ley de Transparencia y protección de datos personales de sujetos obligados.

Declaro que todo lo que se ha mencionado en este documento me fue explicado verbalmente.

Con fecha _____ y, habiendo comprendido lo anterior y una vez que se me aclararon todas las dudas que surgieron con respecto a mi participación, por lo tanto, **acepto participar** en el estudio antes mencionado.

Este documento proporciona al participante después de haber sido leído y explicado verbalmente, quedando en poder del sujeto de investigación. Para preguntas o comentarios comunicarse con la Dra. Marisela Gutiérrez Vega, responsable del proyecto, al teléfono 656-215-20-75 o al correo electrónico marisela.gutierrez@uacj.mx.

El investigador principal firma _____

En caso de sentir vulnerados sus derechos, puede comunicarse con la Dra. Gwendolyne Peraza Mercado y/o Dra. Fany Thelma Solís Rodríguez, Presidente y Secretaria del Comité de Ética en la Investigación de la UACJ, a los correos gperaza@uacj.mx y fany.solis@uacj.mx

ii. **Fase 2: Carta de consentimiento informado para Investigación Cualitativa**

Carta de consentimiento informado

A través de este consentimiento se manifiesta que:

Usted está siendo invitado a participar en el proyecto de investigación **“Factores sociodemográficos y psicológicos del desajuste como determinantes de la ideación suicida y el desarrollo de un programa de prevención del suicidio basado en la irritación (I-SPP) en estudiantes universitarios del norte de México” que tiene como objetivo recopilar cualitativamente información que orientará y conducirá al desarrollo de un Programa de Prevención del Suicidio Basado en Intervenciones (I-SPP) entre Estudiantes Universitarios del Norte de México”.** Este proyecto tiene como objetivo investigar las necesidades sociales y psicológicas de los estudiantes que posteriormente podrían reducir los problemas de salud mental, como programas de apoyo y cambios de comportamiento en las relaciones interpersonales entre estudiantes y profesores, amigos, colegas y personal, lo que podría fomentar un entorno de salud psicológica saludable. aprendiendo. Además, los hallazgos del estudio informarán ciertas recomendaciones que podrían hacerse sobre un posible programa de intervención preventiva unificado y modernizado para la universidad seleccionada. Los resultados informarán un programa que podría implicar involucrar a los estudiantes en los servicios de salud mental, evaluarlos a través de la interacción hombre-máquina en línea, especialmente en casos de emergencias de angustia emocional, y decirles a los estudiantes sobre las formas de cambiar su comportamiento que han demostrado ayudar a aliviar angustia emocional, que puede llevar a un comportamiento suicida.

Los participantes se presentarán **voluntariamente** como estudiantes o profesionales de la salud mental que firmaron el consentimiento informado y son de la UACJ en ICSA. Los encuestados pueden salir de la encuesta en cualquier momento. La evaluación se completará una sola vez. Los cuestionarios o entrevistas tendrán una duración de entre una hora, por lo que los participantes estarán en un ambiente o lugar propicio.

Los **riesgos** que se pueden derivar de los procedimientos se puede presentar aburrimiento durante la evaluación de los participantes, sin embargo, habrá incentivos consumibles como té, café y refrigerios mientras esperan en la sala de evaluación para asistir a las entrevistas, las cuales tomarán entre 30 minutos y 1 hora, respectivamente.

El estudio presenta los siguientes **beneficios**: Este estudio pronosticará comportamientos humanos que faciliten el control social para reducir la ideación suicida y construir una comunidad resistente a los problemas que podrían conducir al suicidio. Ayudará a comprender el bienestar de los estudiantes, particularmente las características de disposición que conducen al suicidio dentro de la comunidad universitaria. También evaluará las necesidades especiales de la comunidad universitaria para prevenir la ideación suicida e indicará un enfoque preventivo probado contextualmente, que promoverá el conocimiento y ayudará a la práctica de los profesionales y los responsables políticos en la comunidad universitaria y los investigadores. se comprometen a brindar todos los comentarios a los estudiantes y la comunidad universitaria al publicar los resultados y almacenar todo el estudio en el repositorio de la UACJ para que los estudiantes, lectores, investigadores y el personal puedan usar el conocimiento para desarrollar resiliencia ante problemas que pueden conducir al suicidio sin que signifique gasto alguno.

Se me ha explicado que mi participación es **voluntaria** y que puedo abandonar el estudio en el momento que lo desee sin que esto afecte mi relación con profesores y la misma institución. Se me ha garantizado que este estudio proporcionará conclusiones, pero no se divulgará la identidad del participante, y la información sobre el participante se mantendrá en una unidad en la nube protegida y encriptada y solo podrá ponerse a disposición del participante o de una autoridad con una estricta solicitud legal; después de un año, dicha información será eliminada en aras del **anonimato**, la **confidencialidad** y la **protección** de la información del participante. La identidad del estudiante no será revelada cuando se publiquen los resultados; después de todo, el entrevista no incluirá los nombres de los participantes ni los números de matrícula para garantizar los estándares éticos, así como los derechos de los sujetos a solicitar la destrucción o el anonimato de las muestras biológicas, registros o partes de registros que pudieran considerarse particularmente delicados, como fotografías, cintas de video o de audio, en cuanto a la ley de Transparencia y protección de datos personales de sujetos obligados.

Declaro que todo lo que se ha mencionado en este documento me fue explicado verbalmente.

Con fecha _____ y, habiendo comprendido lo anterior y una vez que se me aclararon todas las dudas que surgieron con respecto a mi participación, por lo tanto, **acepto participar** en el estudio antes mencionado.

Este documento proporciona al participante después de haber sido leído y explicado verbalmente, quedando en poder del sujeto de investigación. Para preguntas o comentarios comunicarse con la Dra. Marisela Gutiérrez Vega, responsable del proyecto, al teléfono 656-215-20-75 o al correo electrónico marisela.gutierrez@uacj.mx.

El investigador principal principal firma _____

En caso de sentir vulnerados sus derechos, puede comunicarse con la Dra. Gwendolyne Peraza Mercado y/o Dra. Fany Thelma Solís Rodríguez, Presidente y Secretaria del Comité de Ética en la Investigación de la UACJ, a los correos gperaza@uacj.mx y fany.solis@uacj.mx

Appendix 4. Research instruments

CUESTIONARIO

Estimado encuestado, este cuestionario está diseñado para recopilar datos solo con fines de investigación, responda amablemente a los elementos con sinceridad y sus respuestas serán tratadas con confidencialidad. Si desea continuar, adjunte su firma en esta línea punteada …….

SECCIÓN A

1. ¿Con qué género se identifica?: (a) Masculino [ ], (b) Femenino [ ], (c) Persona no Binaria [ ]

(d) Otro (especifique):_____.

2. Religión: (a) Cristianismo [ ] (b) Islam [ ] (c) Otro [especifique] _____

3. ¿Cuál es su orientación sexual? (a) Heterosexual [ ], (b) Homosexual [ ], (c) Bisexual [ ], (d) Asexual [ ], (e) Otro (especifique) _____

4. Edad en años: _____

5. Estado civil actual: (a) Casado [ ], (b) Unión libre [ ], (c) Soltero (d) [ ]

6. Pertenece a alguna etnia indígena: (a) Sí [ ], (b) No [ ]

7. Nacionalidad: (a) Mexicano [ ], (b) Estadounidense [ ], (a) Otra (especifique):_____

8. Relaciones de pareja actuales: (a) En relación con una persona [ ], (b) En relación con dos o más personas [ ], (c) Sin relación actual [ ]

9. Vida sexual: (a) Frecuente durante el último mes [ ], (b) Ocasional durante el último mes [ ], (c) Ausente durante el último mes [ ]

10. Nivel de estudios que cursa: (a) Licenciatura [ ], (b) Maestría [ ], (c) Especialidad [ ], (d) Doctorado [ ]

11. Nivel de avance de los estudios que cursa: a) Principiante [ ], (b) Intermedio [ ], (c) Avanzado [ ]

12. ¿Cómo calificarías tu desempeño escolar actual?: (a) De excelencia [ ], (b) Bueno [ ], (c) Regular [ ], (a) Malo [ ]

13. ¿Tienes alguna beca durante este semestre para apoyar tus estudios? (a)Sí [ ], (b) No [ ]

14. Empleo actual: (a) Sí [ ], (a) No [ ]

15. Ingresos totales de su hogar por mes:

1 Menos de $9,000 mxn [ ]
2 Entre $9,000 mxn y $17,000 mxn [ ]
3 Entre $17,000 mxn y $22,000 mxn [ ]
4 Entre $22,000 y $27,000 [ ]
5 Más de $27,000 [ ]

SECCIÓN B

INSTRUCCIONES: Reflexione sobre las últimas cuatro semanas de su vida y seleccione las respuestas que mejor describan sus pensamientos.

	(PSRS).	Sí	no quiero decir	No
1	¿Toma de forma habitual algún medicamento como aspirinas o pastillas para dormir?			
2	¿Tiene dificultades para conciliar el sueño?			

3	¿A veces nota que podría perder el control sobre sí mismo/a?			
4	¿Tiene poco interés en relacionarse con la gente?			
5	¿Ve su futuro con más pesimismo que optimismo?			
6	¿Se ha sentido alguna vez inútil o inservible?			
7	¿Ves su futuro sin ninguna esperanza?			
8	¿Se ha sentido alguna vez tan fracasado/a que sólo quería meterse en la cama y abandonarlo todo?			
9	¿Estás deprimido/a ahora?			
10	¿Está usted separado/a, divorciado/a o viudo/a?			
11	¿Sabe si alguien de su familia ha intentado suicidarse alguna vez?			
12	¿Alguna vez se ha sentido tan enfadado/a que habría sido capaz de matar a alguien?			
13	¿Has pensado alguna vez en suicidarse?			
14	¿Le ha comentado a alguien, en alguna ocasión, que quería suicidarse?			
15	¿Ha intentado alguna vez quitarse la vida?			

SECCIÓN C

Instrucciones: lea cada declaración y encierre en un círculo la respuesta que mejor indique sus sentimientos acerca de estas declaraciones.

	BRS	Totalmente en	Bastante en	Indifente	Bastante de acuerdo	Totalmente de acuerdo
1	Tiendo a recuperarme rápidamente después de haberlo pasado mal					
2	Lo paso mal cuando tengo que enfrentarme a situaciones estresantes					
3	No tardo mucho en recuperarme después de una situación estresante					

4	Es difícil para mí recuperarme cuando me ocurre algo malo					
5	Aunque pase por situaciones difíciles, normalmente no lo paso demasiado mal					
6	Suelo tardar mucho tiempo en recuperarme de los contratiempos que me ocurren en mi vida					

SECCIÓN D

Instrucciones: Para cada pregunta, indique la respuesta que mejor lo describe.

	OSSS						
1	¿Cuántas personas son tan cercanas a ti que puedes contar con ellas si tienes grandes problemas personales?	0	1-2	3-4	5+		
2	¿Cuánto interés y preocupación muestra la gente por lo que haces?	Ninguno	Pequeño	Incierto'	Alguno'	Mucho	
3	¿Qué tan fácil es obtener ayuda práctica de los vecinos si la necesita?	Muy difícil'	Difícil'	Possible	Fácil	Muy	

SECCIÓN E (PFS**)**

	Instrucciones: Para cada pregunta, indique la respuesta que mejor lo describe.	Nunca es verdad	Muy raramente es verdad	Raramente es verdad	Casi siempre es verdad	Nunca es verdad
1	Mis experiencias y recuerdos dolorosos me hacen sentir difícil vivir la vida que quiero					
2	Tengo miedo de mis sentimientos					
3	Me preocupa no poder controlar mis preocupaciones y sentimientos.					
4	Mis recuerdos dolorosos me impiden llevar una vida plena					

5	Mis emociones interfieren con cómo me gustaría que mi Toda la vida					
6	Parece que la mayoría de la gente lleva su vida mejor que yo.					
7	Mis preocupaciones interfieren en el camino de lo que quiero conseguir					

SECCIÓN F

Instrucciones: Durante las últimas 2 semanas, ¿con qué frecuencia ha tenido inconvenientes para tratar los siguientes problemas?

	GAD-2	Nunca	Varios dias	más de la mitad de los	Casi todos los días
1	Sensación de nerviosismo, de ansiedad, de tener los nervios de punta				
2	Sensación de nerviosismo, de ansiedad, de tener los nervios de punta				
Instrucción : Durante las últimas 2 semanas, ¿con qué frecuencia ha tenido inconvenientes para lidiar con los siguientes problemas? PHQ-2		ningún día	Varios dias	más de la mitad de los días	Casi todos los días
1	Un poco de interés o placer en hacer las cosas.				
2	se ha sentido deprimido, deprimido o sin esperanza				

SECCIÓN G

Instrucción: Indique la respuesta que mejor describa su sentimiento hacia su entorno.

	EWÍ	ninguno del dia	algunos de los dias	Más de la mitad de	Casi todos los días
1	Me preocupa cuando pienso en el aumento de la contaminación del aire, el agua, el suelo y el ruido				
2	Me preocupan los desastres por inundaciones en mi entorno				
3	Me preocupa la basura en el ambiente y la defecación al aire libre				
4	Los pensamientos sobre el tráfico y la congestión en mis áreas me preocupan				
5	La preocupación por los desastres naturales y el deterioro de los recursos de la tierra me preocupan				
6	Me siguen preocupando los pensamientos sobre la extinción de algunas especies animales.				
7	Tiendo a preocuparme cuando escucho sobre la escasez de alimentos y agua en mi ubicación				
8	Me preocupa la incidencia de lluvias insuficientes y, en otras ocasiones, lluvias excesivas en mi zona.				
9	Me preocupan los terremotos, los tornados y otros peligros ambientales				
10	Cada vez que escucho sobre la debilidad de las capas de ozono, mi corazón late más rápido				
11	La quema de arbustos y la exposición al dióxido de carbono me preocupan				

PROTOCOLO DE ENTREVISTA A PROFUNDIDAD E INFORMANTE CLAVE

- Gracias por dar su consentimiento para participar en este estudio. También le agradecemos que haya dedicado su tiempo para participar en esta entrevista. Mi

nombre es .....(introducir observador y rol del observador).

- Quiero recordarles un poco sobre el proyecto y cuál es nuestro objetivo al hablarles hoy. **Este es un doctorado. investigación auspiciada por CONACYT y con domicilio en la Universidad Autónoma de Ciudad Juárez de México.** Estas entrevistas con informantes clave están diseñadas para obtener información detallada sobre sus experiencias como estudiante, consejero y profesional de la salud mental sobre la ideación suicida, especialmente a partir de la experiencia personal o la práctica de aquellos factores que cree que son las causas de la ideación suicida entre los estudiantes universitarios. Sus respuestas honestas ayudarán en el diseño de una intervención adecuada para prevenir los desafíos de ideación suicida entre los estudiantes. **Se contactó con usted porque fue remitido/contactado como sobreviviente o voluntario que tiene conocimiento de pensamientos o intentos suicidas y/o como médico. Se cree que sus respuestas darán una visión genérica de las experiencias en esta situación.**
- **Confidencialidad**: Nuestro objetivo es ayudar a los estudiantes con problemas de ideación relacionados con el suicidio al diseñar las intervenciones terapéuticas preventivas que mejor se adapten a ellos, especialmente dentro de la comunidad universitaria. Tiempo nosotros quiero escuchar y documentar sus experiencias, quiero asegurarles que su identidad y toda la información que nos das es estrictamente confidencial. No reportaremos su nombre, organización o cualquier de los nombres de sus familias, a nadie. No adjuntaremos su nombre a ninguna comentarios que haces y lo harás cambiar los detalles de identificación si usamos su información en cualquier informe.
- Cinta grabación: En orden para poder capturar y recordar todos nuestros foco de las discusiones, yo voluntad estar usando cinta grabando en esta entrevista. Es ese de acuerdo ¿contigo? (Si el entrevistado está de acuerdo, el entrevistador seguirá adelante. El entrevistador necesito tomar lotes de notas).
- Informes: El equipo de investigación escribirá un informe que describa nuestros hallazgos en el que haremos recomendaciones sobre una intervención. ¿Le gustaría ver este comentario o indicar interés en ser incluido en alguna posible intervención terapéutica? (Recuérdele al entrevistado que tomará alrededor de 3 a 6 meses antes de

que se reanude la intervención).

- Tú tengo ninguna preguntas sobre el proyecto, o sobre lo que tengo te lo dije ¿hasta aquí? (¿Responder a las preguntas de los entrevistados?
- Vamos a hacerle algunas preguntas sobre actos suicidas ahora, ¿podemos continuar?

Sección A: (Sociodemográfica)

1. **(a).** ¿Cuantos años tienes? (**b)** ¿Tiene una beca? (**c)** ¿Es usted un estudiante extranjero? (**d)** ¿Cómo describiría su género? (**e)** ¿Vive con sus padres o se han separado (indagar para aclaraciones)? (**f)** ¿De qué raza eres? **(g)** ¿En qué nivel estás en la escuela?
2. Como estudiante, ahora te haré preguntas sobre tus pensamientos o experiencias con actos suicidas, qué crees que causa esta situación o tu percepción de ciertos factores.
3. Para los profesionales, les voy a pedir que compartan conmigo su experiencia de práctica y los factores que causan la ideación suicida en el campus entre los estudiantes.
4. ¿Cómo describiría el nivel de apoyo que ha recibido de las personas que lo rodean e incluso del personal de la universidad o de la comunidad universitaria (por ejemplo, profesores, colegas, amigos, personal, etc.)? **Investigacion** *si alguno de estos ha causado al entrevistado una angustia que le haga sentir dolor, desesperanza o inutilidad.*
5. una. Como estudiante, cuénteme un poco sobre su pasado o uno de sus pasados que lo haya hecho sentir inútil, con dolor o ver la vida sin sentido. **Controlar** *busque pistas que representen todos estos factores mientras habla la entrevista; el entrevistador también debe ser consciente de la negación e indagar más*

   b. Como profesional, cuénteme sobre un incidente en el pasado que hizo que uno de sus pacientes se sintiera inútil, con dolor o como si la vida no tuviera sentido. **Controlar** *busque pistas que representen el conocimiento de esta variable, las responsabilidades y la experiencia adecuada como practicante.*

6. Entonces, ¿te gusta lo que haces (tu curso de estudio)? Si es sí o no, ¿por qué?

   a. **Infórmese** de lo que los padres y autoridades esperan de ellos y cómo se sienten ante esta situación**.**
   b. **Sondee** la disponibilidad de resiliencia y habilidades de afrontamiento en este entrevistado.
   c. Identificar las preocupaciones o temores que tiene el entrevistado sobre el rendimiento académico

4. Entonces, ¿podría compartir conmigo sus experiencias personales cuando se enfrenta a angustias o dificultades en su vida académica, y se ha resuelto? **Sonda** de flexibilidad psicológica e inteligencia emocional.

5. Con respecto a tu situación actual, ¿cómo te hace sentir y crees que te ha afectado física, psicológica y socialmente? **Controle** la salud de la persona, el consumo de drogas, los problemas familiares y las preocupaciones emocionales.

   Busque el nivel más alto de factores psicosociales con los que esta persona podría estar luchando o que la hacen sentir impotente)

6. Como profesional de la salud mental que está familiarizado con los desafíos psicológicos de los estudiantes, ¿cuáles cree que son las causas psicosociales de los pensamientos suicidas y cuáles son las posibles sugerencias para prevenir los actos suicidas, especialmente entre los estudiantes?
7. Como estudiante, ¿hay algún otro tema inquietante o interesante sobre el que le gustaría hablar, por ejemplo, sus **relaciones con padres, amigos, supervisores, colegas, su profesor o personal, su pareja,** etc. que lo hacen sentir inútil? Por favor, háblame de estos.
8. Para los profesionales, ¿qué sugiere que desarrollaría estas fortalezas psicológicas (apoyo social, flexibilidad psicológica, resiliencia y afrontamiento fuerte) entre los estudiantes para construir una comunidad universitaria saludable que elimine o prevenga la idea de hacerse daño o suicidarse? *Pida a la persona entrevistada que describa, con base en sus propias experiencias, las cosas que debe hacer o evitar, así como las cosas que debe alentar, para mejorar la salud mental de los estudiantes universitarios y evitar que se suiciden.*

9. ¿Alguna vez ha estado en una situación grave o perturbadora que lo hizo sentir inútil y desesperanzado y le hizo pensar en lastimarse o suicidarse?
10. ¿Alguna vez ha sentido o considerado el suicidio debido a la falta de algo o la privación de necesidades o deseos que le hicieron sentir o considerar hacerse daño a sí mismo o a otra persona? *En caso afirmativo, ¿cuáles son esas cosas?*
11. Nos gustaría comprender mejor las cosas típicas que cree que harían que el campus sea más propicio para su bienestar y para construir su existencia significativa como estudiante.
12. ¿Sabe si hay acceso a servicios de asesoramiento o salud mental en este campus? *Si es así, ¿ha accedido a él o podría acceder en caso de necesitar sus servicios o ayuda? En caso afirmativo, ¿está satisfecho con el servicio prestado?*
13. una. Si la evaluación y el asesoramiento virtual sobre salud mental estuvieran disponibles, ¿estaría dispuesto a utilizarlos en lugar del asesoramiento tradicional cara a cara?
14. b. Además, ¿asistiría a seminarios universitarios para aprender sobre salud mental para la comunidad universitaria?
15. ¿Cuáles podrían ser sus expectativas para una reestructuración de los servicios de salud mental en el campus, si las hay?
16. ¿Hay algo más que le gustaría compartir conmigo (consejos o sugerencias para mí, profesionales o autoridades universitarias)?