

ORIGINAL ARTICLE

The Addiction Problems, Domestic Violence, and Limited Well-Being in the Risk of Suicide in Mexico

Cristian Molina-Pizarro^{1,*}, Olatz Lopez-Fernandez^{2,*}, Ismael Martinez-Nicolas^{3,4},
Paula Villasante-Soriano⁵, Pablo Méndez-Bustos⁶, Fuensanta Aroca-Bisquert⁷,
Enrique Baca-García^{5,8,9,10,11,12,13}

¹Institute of Mental Health of the Government of Yucatan, Merida, Mexico

²Department of Behavioral Sciences Methodology, Universidad Nacional de Educación a Distancia Faculty of Psychology, Madrid, Spain

³Universidad Católica San Antonio de Murcia Faculty of Life Sciences, Guadalupe, Spain

⁴Sistema Español de Notificación en Seguridad en Anestesia y Reanimación, IDEhA Simulation Centre, Fundación Alcorcon University Hospital, Alcorcon, Spain

⁵Department of Psychiatry, University Hospital Jimenez Diaz Foundation, Madrid, Spain

⁶Universidad Católica del Maule, Talca, Chile

⁷Instituto de Matemáticas. Universidad Nacional Autónoma de México, Mexico

⁸Department of Psychiatry, Universidad Autónoma de Madrid, Madrid, Spain

⁹Department of Psychiatry, Hospital Rey Juan Carlos, Móstoles, Spain

¹⁰Department of Psychiatry, Central Hospital de Villalba, Villalba, Spain

¹¹Department of Psychiatry, Hospital Universitario Infanta Elena, Valdemoro, Spain

¹²CIBERSAM, Research Group, Madrid, Spain

¹³Nimes University Hospital, Nimes, France

ORCID iDs of the authors: C.M.P. 0000-0001-8813-6073, O.L.F. 0000-0002-4294-9156, I.M.N. 0000-0002-0254-3741, P.V.S. 0000-0003-2258-1101, F.A.B. 0000-0002-3865-5905, P.M.B. 0000-0002-9026-6974, E.B.G. 0000-0002-6963-6555.

*Cristian Molina-Pizarro and Olatz Lopez-Fernandez contributed equally to this study.

Corresponding Author:

Enrique Baca-García,
Olatz Lopez-Fernandez,
E-mail:

research.fjd@gmail.com,
lopez.olatz@gmail.com

Received: September 30, 2024

Revision Requested:

October 30, 2024

Last Revision Received:

December 3, 2024

Accepted: February 22, 2025

Publication Date: June 12, 2025



Copyright © Author(s) –
Available online at <https://www.addicta.com.tr/EN>.

Content of this journal is
licensed under a Creative
Commons Attribution (CC BY)
4.0 International License.

Main Points

- High suicide risk was assessed in 8% in the State of Yucatan in post-coronavirus period.
- Violence at home and drug use were directly associated with suicidal behavior
- Alcohol use was only directly associated with suicidality
- There was a direct association between violence at home and alcohol use in women
- Mexican youth did not present any association between alcohol and suicidality

Abstract

Violence at home and substance use are psychosocial factors related to suicide behavior. In Mexico, it has been claimed to be highly associated with suicidality from adolescents to elderly population groups. This study explores the relationship between violence at home, alcohol and other drug use, well-being, and suicidality in Yucatan, which has one of the highest suicide rates worldwide, by gender and age groups. A cross-sectional study was carried out surveying 32,531 participants (age range 15 – 80) through the TEDUCA (electronic mental health screening for educational institutions) survey smartphone app. Partial least squares structural equation models were applied. High suicide risk was assessed in 8% of the sample. The model exhibited satisfactory measurement; violence at home and drug use were directly associated with suicidal behavior, while well-being was inversely associated; alcohol use was only directly associated with suicidality. The partial least squares structural equation models by gender showed a direct association between violence at home and alcohol use in women and a direct association between violence at home and suicidality in men. Regarding the partial least squares structural equation models by age groups, younger

Cite this article as: Molina-Pizarro, C., Lopez-Fernandez, O., Martinez-Nicolas, I., Villasante-Soriano, P., Méndez-Bustos, P., Aroca-Bisquert, F., & Baca-García, E. (2025). Addiction problems, domestic violence, and limited well-being in the risk of suicide in Mexico. *Addicta: The Turkish Journal on Addictions*, 12(2), 159-169.

ages did not present any association between alcohol and suicidality. Violence at home and substance abuse can contribute to suicidality among different cohorts in the Yucatan population.

Keywords: Alcohol and other drug use, smartphone screening, suicide behavior, violence at home, well-being

Introduction

Contemporary research shows that suicidal behavior (SB) is associated with violence within the family (Brown & Seals, 2019) and the use of alcohol and other drugs (AOD) (Darvishi et al., 2015). Depression and anxiety, stated vital stressful events together with a family history of SB, and a history of AOD dependence were adverse conditions leading to commit suicide (Baca García & Aroca, 2014).

Mexico has demonstrated a comparatively high rate of suicide in comparison to numerous other countries. Mexico ranks 19th in suicides in the American continent (World Health Organization [WHO], 2021). Indeed, suicide is the 15th leading cause of death in Latin America. However, the research on the relationship between SB and AOD mental health problems in the Mexican population is still limited. Recent studies have highlighted the escalating rates of suicide in this country (Sánchez-Barriga, 2023), in which young men with depression and AOD dependencies (mainly alcohol) are particularly vulnerable.

The WHO (2021) reports that males aged 35–45, exhibit the highest rates, behind older males. Younger women aged between 15 and 24 years have the highest rate of suicidality. On the other hand, statistics from Mexico indicate slight variations (Dávila Cervantes et al., 2015; Sánchez-Barriga, 2023). The 20–24 years age group represents the highest number of suicides, with 12.9% for men and 2.9% for women. As a result, the highest rates of SB for Mexican males seem to occur in the 20–24 age group, while for females, the highest rates occur in the 15–19 age group.

The State of Yucatan has had one of the highest rates of SB during the last years (Dávila Cervantes et al., 2015), which has doubled the other Mexican states (Reyes-Foster, 2013). However, the patterns of SB have recently started to change (Sánchez-Barriga, 2023). Suicidality seems to have a relation with rural areas and low education levels (Reyes-Foster, 2013), while during the last three decades, it was usually caused by suffering, addiction, and societal violence starting at home (Olguin et al., 2011).

A significant number of Mexican adolescents turn to analgesics and antidepressants, with parental divorce and family dysfunction being identified as risk factors in half of all suicide cases (Sánchez-Barriga, 2023). Among Mexican adults, intentional self-poisoning through nonopioid analgesics, antipyretics, and antirheumatics has been found to account for 81.66% of female suicides over the past two decades. Meanwhile, 64.05% of male suicides are attributed to intentional self-harm. Nonetheless, beyond depression, the AOD factors, among other psychosocial predictors of such outcomes, remain unclear (Baca-García et al., 2022a, Martínez-Nicolás et al., 2022b).

Individuals diagnosed with substance use disorder are known to be at a heightened risk of suicide when compared to the general population. Although they may also exhibit aggressive behaviors, which can lead to interpersonal stress and conflict, research

into the relationship between these factors could prove to be a valuable tool in understanding the increased risk of SB in individuals with addiction. Exposure to violence at home can have independent effects on both internalizing and externalising outcomes (Mrug & Windle, 2010). Similarly, Zygo et al. (2019) found that self-harm behavior in adolescents is more common among females, those who use psychoactive substances, those who run away from home, those raised in single-parent families, those with family members addicted to alcohol, and those who have experienced violence. There is a strong association between adversities and SB, with the most consistent finding being the link between suicidal and sexual abuse experiences. Addressing these concerns is essential in preventing suicide within the Yucatan community.

The main aim of the present study is to explore the role of violence at home, AOD addiction problems, and well-being in the suicidality of the Yucatan State (Mexico) general population using the partial least squares structural equation modeling (PLS-SEM) approach. The specific aims are: to (a) investigate the connection between this type of violence and SB, through addiction problems and well-being, (b) measure both direct and indirect effects of domestic violence to explain SB, (c) expand the limited data on how domestic violence, unsuccessful well-being, and AOD dependence relate to SB among the Yucatan population in terms of age and gender, and (d) present empirical evidence to support the study's findings and offer present knowledge on relational nature and beyond descriptive Mexican studies.

Material and Methods

Settings & Design

This cross-sectional study was undertaken from January to December 2022 in the State of Yucatan (Mexico), which complied with the principles outlined in the Declaration of Helsinki. Ethical approval (Approval No: 002/2019 Date: 27 August, 2019) was granted by the Ethics Review Board of the Hospital Psiquiátrico Yucatán, Yucatan (Mexico). This protocol has been registered in ClinicalTrials.gov (Arenas-Castañeda et al., 2020).

Participants and Procedure

The study included a total of 32,530 Mexican participants from the general population in the State of Yucatan (gender balanced: 16,072 men and 16,267 women; age range: 15–80 years old). The data were retrieved in 2023 from the second wave of the SmartScreen project, through the TEDUCA survey (Martínez-Nicolás et al., 2022b). The TEDUCA is an ongoing online survey through a mHealth smartphone app named [Blinded for Review] (Berrouiguet et al., 2015), according to SmartScreen protocol (Arenas-Castañeda et al., 2020; Baca-García et al., 2022a).

The inclusion criteria were as follows: (1) age 15 years or above with enrollment at a participating institution; (2) ability to use either their smartphone or an organization-provided computer; (3) ability to understand the nature, purpose, and methodology of the study; (4) participation in accordance with express informed

consent granted in the app. The exclusion criteria were as follows: (1) students protected by law and (2) individuals deprived of liberty.

Variables

Violence at home (VH): This item consisted of an ordinal measure of the perceived violence the participant observed in his or her home at present - intrafamilial violence.

Suicidal Behavior (SB): The Columbia-Suicide Severity Rating Scale (C-SSRS) included seven yes/no items regarding the participant's risk of suicidality. The Spanish version used (Al-Halabi et al., 2016) showed good internal consistency (Cronbach's $\alpha = .81$), also used in a previous study with another cohort of participants (Martínez-Nicolás et al., 2022b).

Alcohol use (AU): The first three items of the C version of the Alcohol Use Disorders Identification Test (AUDIT-C) from the Spanish version (Rubio et al., 1998) was used to estimate a latent variable representing the identification of risk use patterns, answered on a scale of zero to four. A specific score was obtained, with higher values indicating a higher risk of alcoholism.

Drug use (DU): A measure of illicit drug use from the Ten (yes/no) items Drug Abuse Screening Test (DAST-10) in the Spanish version (Pérez Gálvez et al., 2010). A specific score was obtained, with higher values indicating higher drug use.

Perceived well-being (WB): Positive mental health was measured by the Spanish version of the WHO-5 (Martínez-Nicolás et al., 2022b), based on the well-being index questionnaire. The WHO considers positive well-being as a mental health term. In this indicator, higher numbers inform about better mental health.

These mental health tests have demonstrated adequate validity as a screening tool in several countries, including Mexico (Arenas-Castañeda et al., 2020).

Sociodemographic variables. Gender and age group (<25 years old, ≥ 25 years old) were included to perform the PLS-SEM and ascertain their effects on the risk of SB based on previous research in this field in the State of Yucatan (Dávila Cervantes et al., 2015; Sánchez-Barriga, 2023).

Statistical Analysis

Descriptive and exploratory analyses were performed to describe participant characteristics, including subgroup analyses by gender, age groups, working status, and test scores, using chi-square tests as appropriate (see Table 1). Correlational analyses were also made between pairs of variables with Spearman's r in the case of VH for its ordinal nature and with Pearson's r between the constructs (DU, AU, WB, SB).

Regarding the PLS-SEM modeling, the *SeminR* package (Hair et al., 2021) was used to run the model. The PLS-SEM has shown higher statistical power compared to other SEMs, being useful for exploratory research. Moreover, the PLS-SEM has the capability to evaluate latent constructs that are pertinent to this specific population. One structural model was built, including the variable Violence at home as a predictor of the other variables: Alcohol use, Drug use, Well-being, and Suicide behavior.

Furthermore, it was hypothesized that AOD use and Well-being would be moderators in the relationship between Violence at home and Suicidal behavior. Similarly, the relationship between Well-being and Suicide Behavior would be moderated by AOD use. The bootstrapping technique was used to obtain the statistical significance of the path coefficients and the CIs. A path coefficient was significant at the 5% level if the value zero does not fall into the 95% CI (see Table 2). The model's explanatory power was assessed by examining the endogenous constructs' coefficient of determination (R^2), which ranges from 0 to 1. To offer an alternative perspective on the results, the f^2 is also computed.

Results

The descriptive statistics are reported in Table 1. The median of the sample's age was 32, of which almost a third of the sample was younger than 25 years old, usually students. From the overall sample, a third had suffered usual violence at home, a fourth had low well-being, and 8% expressed high suicide risk (although 21.6% self-expressed some type of SB), 8% high alcohol risk use, and 5% drug use.

Previous to applying PLS-SEM, the bivariate correlations between the constructs were computed. The analyses revealed that all pairs of constructs were correlated, and the results were all significant. The degree of association varied, ranging from very weak associations (e.g., r WHO5-AUDIT-C = 0.01, and r C-SSRS-AUDIT-C = -0.01) to moderate associations (e.g., r WHO5-C-SSRS = -0.45).

With respect to the PLS-SEM results, the measurement models of Violence at home, Alcohol use, Drug use, Well-being, and Suicide behavior constructs were evaluated by internal consistency (i.e., Cronbach's alpha, and composite reliability), and convergent validity (i.e., average variance extracted (AVE) and the outer loading such as ρ_A). The reliability coefficients obtained in each measure ranged from acceptable to excellent (i.e., from $\alpha_{\text{Alcohol}} = 0.63$ to $\alpha_{\text{Well-being}} = 0.90$) due to its exploratory research nature. The convergent validity was assessed by AVE and ρ_A , which could be greater than 0.4 if the indicator is relevant and the corresponding AVE is satisfactory according to Riou et al. (2016). In this case, the lowest AVE were found in the addiction variables, Drug measure (0.2), and Alcohol measure (0.4). Similarly, the other measure of construct reliability was below the threshold (i.e., $\rho_{\text{Alcohol}} = 0.2$) probably due to the exploratory nature of the present study, but both are relevant constructs. Robustness checks were run to support the stability of the results reported (see Table 2). The PLS-SEM model analysis conducted yielded interesting findings, as presented in Table 2.

Regarding assessing the formative measurement model, the variance inflation factor (Becker et al., 2015), the highest is 1.039 between Suicide behavior and Well-being, which demonstrates the absence of collinearity. Concerning the assessment of the indicator weights' statistical significance and relevance (i.e., size), bootstrapping is used to determine statistical significance through the CI. In Figure 1, the general PLS-SEM bootstrap model structure, there is no relation between Violence at home and Alcohol use, as the CI of an indicator weight includes zero (Hair et al., 2017).

Table 1.

Study Population Characteristics. Sociodemographic variables (age, gender, and current activity) and social psychiatry dimensions by gender using the self-administered questionnaires contained within the app, indicating the level of severity for each psychological factor

Variable	Females (n = 16,267)	Males (n = 16,072)	p	Study Population (n = 32,531)
Age, median (IQR)	31.23	33.23	<.01	32.32
Age group			<.01	
Younger than 25	5727 (35.21%)	5422 (33.74%)		11,292 (29.15%)
25 or older	10,540 (64.79%)	10,650 (66.26%)		21,239 (65.13%)
Current activity			<.01	
Student (n, %)	4309 (29.59%)	4057 (28.35%)		8462 (34.71%)
Actively working (n, %)	9210 (63.24%)	9654 (67.46%)		18,906 (65.29%)
Violence at home			<.01	
Very frequent	2229 (15.45%)	1075 (7.6%)		3319 (16.14%)
Frequent	3076 (21.32%)	2449 (17.31%)		5571 (19.4%)
Not frequent	3571 (24.75%)	4258 (30.1%)		7870 (27.4%)
Inexistent	4941 (34.24%)	5673 (40.11%)		10,645 (37.06%)
C-SSRS			<.01	
No suicide risk, n (%)	12,938 (79.54%)	14,079 (87.6%)	<.01	27,106 (83.32%)
Low suicide risk, n (%)	889 (5.47%)	527 (3.28%)		1430 (4.4%)
Moderate suicide risk, n (%)	800 (4.92%)	485 (3.02%)		1307 (4.02%)
High suicide risk, n (%)	1640 (10.08%)	981 (6.1%)		2688 (8.26%)
DAST			<.01	
No drug use (n, %)	14,263 (95.85%)	13,851 (94.88%)	<.01	28,243 (95.32%)
Drug use (n, %)	617 (4.15%)	747 (5.12%)		1386 (4.68%)
AUDIT			<.01	
Low risk (n, %)	7058 (95.26%)	7488 (89.44%)	<.01	14,600 (92.18%)
High risk (n, %)	351 (4.74%)	884 (10.56%)		1239 (7.82%)
WHO-5			<.01	
Low well-being, n (%)	4173 (30.51%)	2256 (16.64%)	<.01	6515 (23.81%)
High well-being, n (%)	9503 (69.49%)	11,302 (83.36%)		20,853 (76.19%)

Note: %, percentage; AUDIT, three items of the Alcohol Use Disorders Identification Test; C-SSRS, Columbia-Suicide Severity Rating Scale; DAST, ten items of the Drug Abuse Screening Test; IQR, interquartile range; SD, standard deviation; WHO-5, World Health Organization Well-being Index.

The assessment of the structural model results allows us to detect the predictive capabilities of the general proposed model (see Figure 1). As PLS - SEM focuses on exploration, the quantification of the hypothesized relationships within the inner model is of primary interest. The coefficient of determination (R^2) measures the variance explained in each of the endogenous constructs, being a measure of the model's explanatory power (Shmueli & Koppius, 2011). The R^2 within the present general model could be considered weak (Henseler et al., 2009), as the highest coefficient was in Suicide behavior ($R^2 = 0.22$), although according to Riou et al. (2016) the values obtained, it could be classed as medium effects (except for the Alcohol: $R^2 = 0.01$). However, as low as 0.10 are usually considered satisfactory when predicting stock returns, and the lesser the number of predictor constructs, the lower the R^2 .

Only inverse significant relationships were observed between Well-being and the other four constructs. The first PLS-SEM general model revealed that more Violence at home was a significant

predictor of more Drug use, more Suicidal behavior, and less Well-being. Violence at home had a positive association with Drug use and Suicidal behavior while exhibiting a negative association with Well-being. However, the analysis did not find any significant correlation between Violence at home and Alcohol use. Indeed, the study revealed that Drug use and Alcohol use were positively correlated with Suicidal behavior, while Well-being demonstrated a negative correlation with Suicidal behavior. Finally, Well-being displayed a negative correlation with Drug and Alcohol use.

Regarding the second PLS-SEM analysis by gender (see Figure 2, Figure 2.1), it was determined that there was no correlation between Violence at home and suicidal tendencies among women. However, the consumption of alcohol was found to have a positive association with suicidal behavior, as evidenced by Figure 2. Consequently, women who exhibited drug and alcohol use, in addition to experiencing low levels of well-being, were found to be at a higher risk of suicidal behavior. This pattern,

Table 2.*Path Coefficients of Main and Subgroup Partial Least Squares Structural Equation Modelling Models*

PLS-SEM Model Path	Original. Est.	Mean	Standard Deviation	TStatistic	95% CI
Main model					
Violence at home → Well-being	-0.142	-0.143	0.006	-22.402	-0.154, -0.129
Violence at home → Drugs	0.023	0.023	0.006	4.149	0.013, 0.034
Violence at home → Alcohol	-0.002	-0.003	0.008	-0.3	-0.018, 0.014
Violence at home → Suicide Behavior	0.02	0.02	0.005	3.713	0.01, 0.03
Well-being → Drugs	-0.115	-0.114	0.008	-13.585	-0.132, -0.099
Well-being → Alcohol	-0.075	-0.076	0.006	-13.024	-0.087, -0.065
Well-being → Suicide Behavior	-0.42	-0.421	0.005	-80.399	-0.43, -0.411
Drugs → Suicide Behavior	0.133	0.135	0.01	13.832	0.115, 0.154
Alcohol → Suicide Behavior	0.043	0.044	0.006	7.294	0.032, 0.055
Females					
Violence at home → Well-being	-0.102	-0.101	0.008	-12.593	-0.116, -0.088
Violence at home → Drugs	0.019	0.02	0.007	2.697	0.006, 0.034
Violence at home → Alcohol	0.027	0.027	0.009	2.88	0.009, 0.045
Violence at home → Suicide Behavior	0.011	0.011	0.007	1.71	0.001, 0.025
Well-being → Drugs	-0.125	-0.125	0.009	-13.877	-0.143, -0.11
Well-being → Alcohol	-0.112	-0.112	0.007	-15.181	-0.125, -0.099
Well-being → Suicide Behavior	-0.43	-0.429	0.006	-67.436	-0.441, -0.416
Drugs → Suicide Behavior	0.13	0.135	0.012	10.726	0.114, 0.157
Alcohol → Suicide Behavior	0.049	0.05	0.009	5.275	0.033, 0.07
Males					
Violence at home → Well-being	-0.14	-0.139	0.008	-17.21	-0.154, -0.123
Violence at home → Drugs	0.038	0.038	0.01	3.951	0.02, 0.056
Violence at home → Alcohol	0.047	0.048	0.011	4.455	0.028, 0.067
Violence at home → Suicide behavior	0.027	0.027	0.008	3.322	0.011, 0.041
Well-being → Drugs	-0.113	-0.111	0.018	-6.455	-0.142, -0.081
Well-being → Alcohol	-0.083	-0.083	0.008	-10.169	-0.098, -0.067
Well-being → Suicide Behavior	-0.375	-0.375	0.009	-40.581	-0.391, -0.357
Drugs → Suicide Behavior	0.151	0.157	0.018	8.258	0.122, 0.191
Alcohol → Suicide Behavior	0.009	0.008	0.008	1.133	-0.007, 0.024
<25 Years Old					
Violence at home → Well-being	-0.136	-0.136	0.01	-14.309	-0.154, -0.121
Violence at home → Drugs	0.031	0.031	0.01	3.166	0.009, 0.051
Violence at home → Alcohol	0.044	0.044	0.011	3.839	0.024, 0.066
Violence at home → Suicide Behavior	0.041	0.042	0.009	4.372	0.025, 0.057
Well-being → Drugs	-0.098	-0.103	0.012	-8.187	-0.126, -0.08
Well-being → Alcohol	-0.042	-0.042	0.012	-3.536	-0.064, -0.018
Well-being → Suicide Behavior	-0.433	-0.433	0.008	-56.366	-0.447, -0.419
Drugs → Suicide Behavior	0.154	0.154	0.014	10.686	0.129, 0.177
Alcohol → Suicide Behavior	0.001	0.002	0.009	0.114	-0.017, 0.018

(Continued)

Table 2.*Path Coefficients of Main and Subgroup Partial Least Squares Structural Equation Modelling Models (Continued)*

PLS-SEM Model Path	Original. Est.	Mean	Standard Deviation	TStatistic	95% CI
>25 Years Old					
Violence at home → Well-being	-0.165	-0.165	0.007	-24.438	-0.176, -0.15
Violence at home → Drugs	0.022	0.022	0.007	3.192	0.007, 0.034
Violence at home → Alcohol	0.013	0.012	0.007	1.829	-0.002, 0.026
Violence at home → Suicide Behavior	0.029	0.029	0.006	4.928	0.019, 0.04
Well-being → Drugs	-0.102	-0.104	0.012	-8.142	-0.126, -0.079
Well-being → Alcohol	-0.075	-0.075	0.008	-9.256	-0.09, -0.06
Well-being → Suicide Behavior	-0.332	-0.329	0.008	-41.907	-0.345, -0.316
Drugs → Suicide Behavior	0.127	0.131	0.016	7.681	0.099, 0.161
Alcohol → Suicide Behavior	0.046	0.047	0.009	5.358	0.031, 0.061

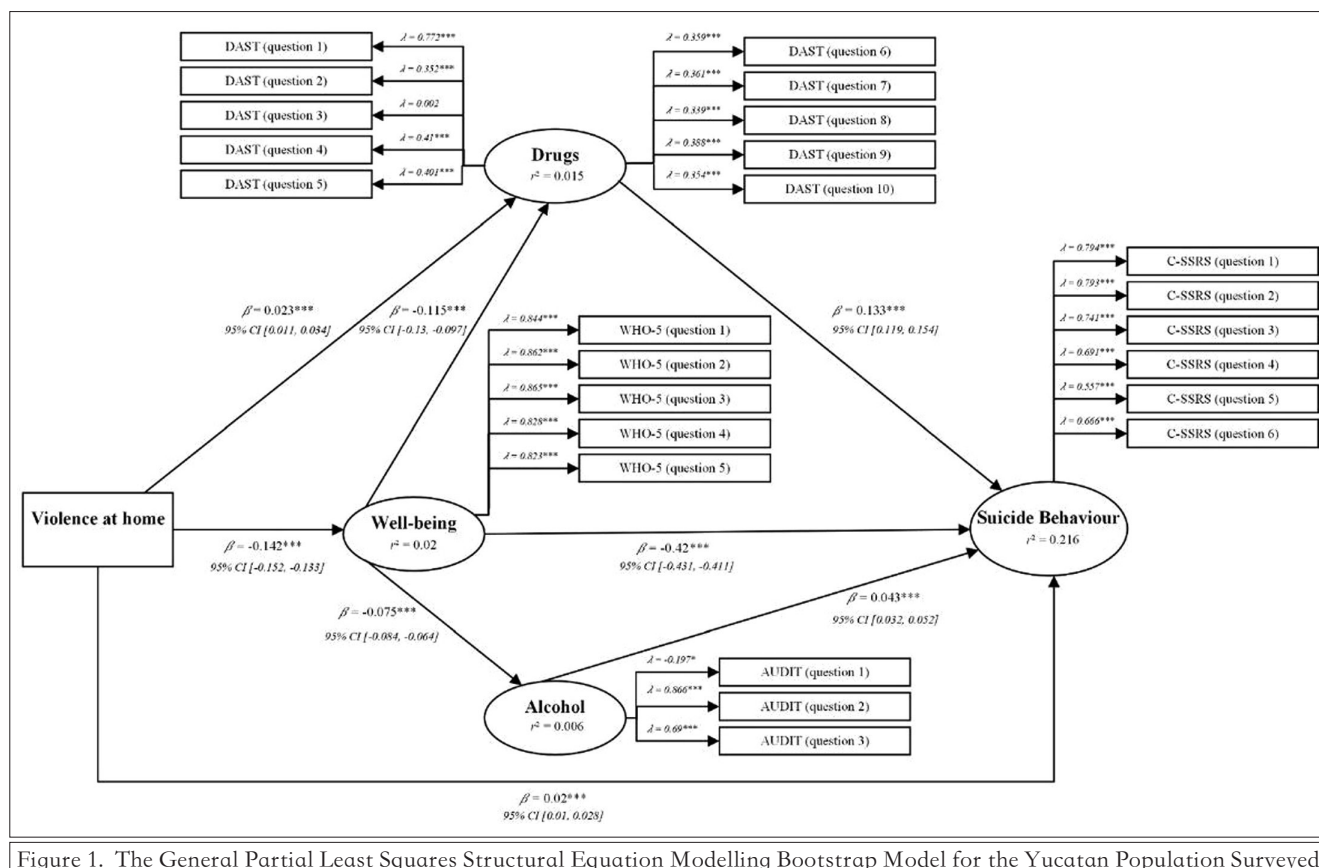
however, was not exactly observed in men, as those who displayed home violence, drug use, and low levels of well-being were more likely to exhibit suicidal behavior, as shown in Figure 2.1. Overall, the main predictor of suicidal behavior in the entire study population was found to be drug use, whereas alcohol use was only a competing factor for women, while violence at home was only a competing factor for men.

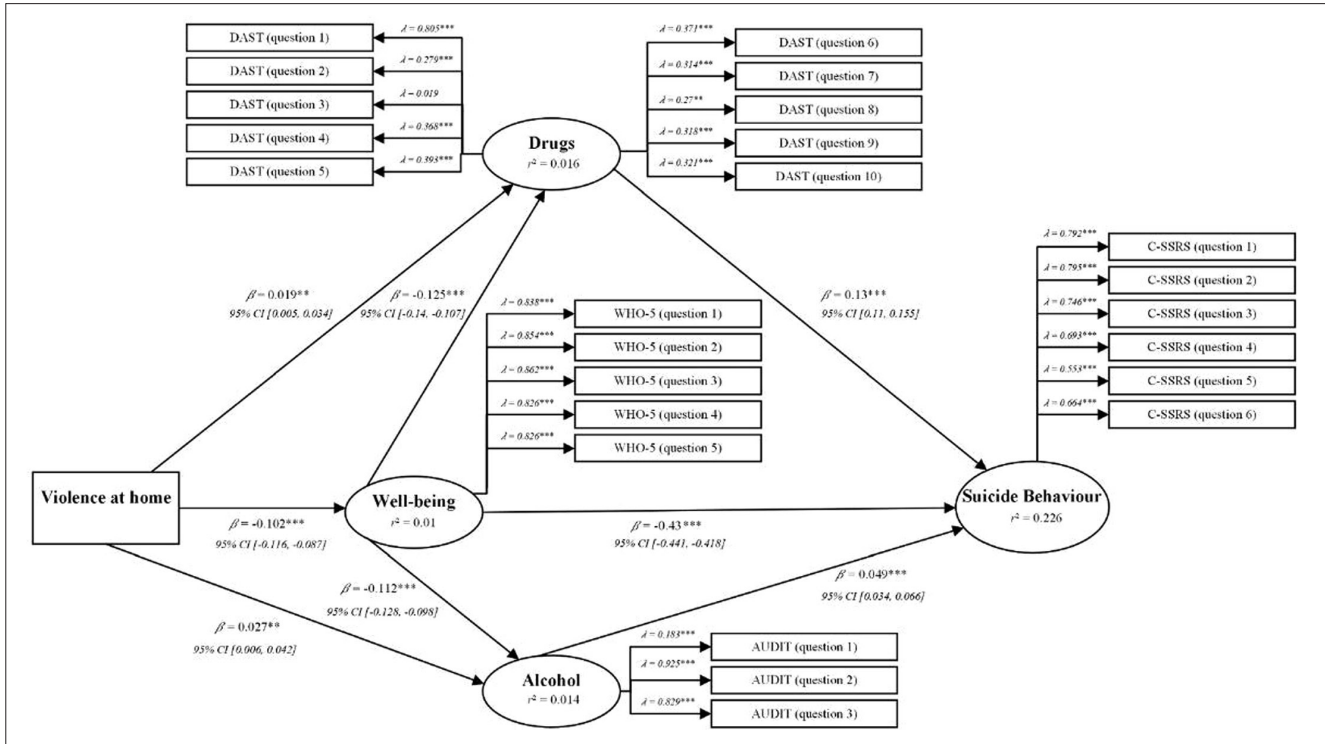
The third PLS-SEM analysis demonstrated a positive relationship between Violence at home and all latent factors for both age groups, indicating the same underlying constructs for each group (see Figures 3 and 3.1). However, the nature of the relationship with Alcohol use differed somewhat. For those aged 25 years and

older, there was a clear association between Violence at home and Suicidal behavior. This connection was positive through Drug use, negative through Well-being, and subsequently positive through Alcohol use (see Figure 3.1). In contrast, the younger population under 25 years old did not exhibit a pathway from Alcohol use to Suicidal behavior (see Figure 3).

Discussion

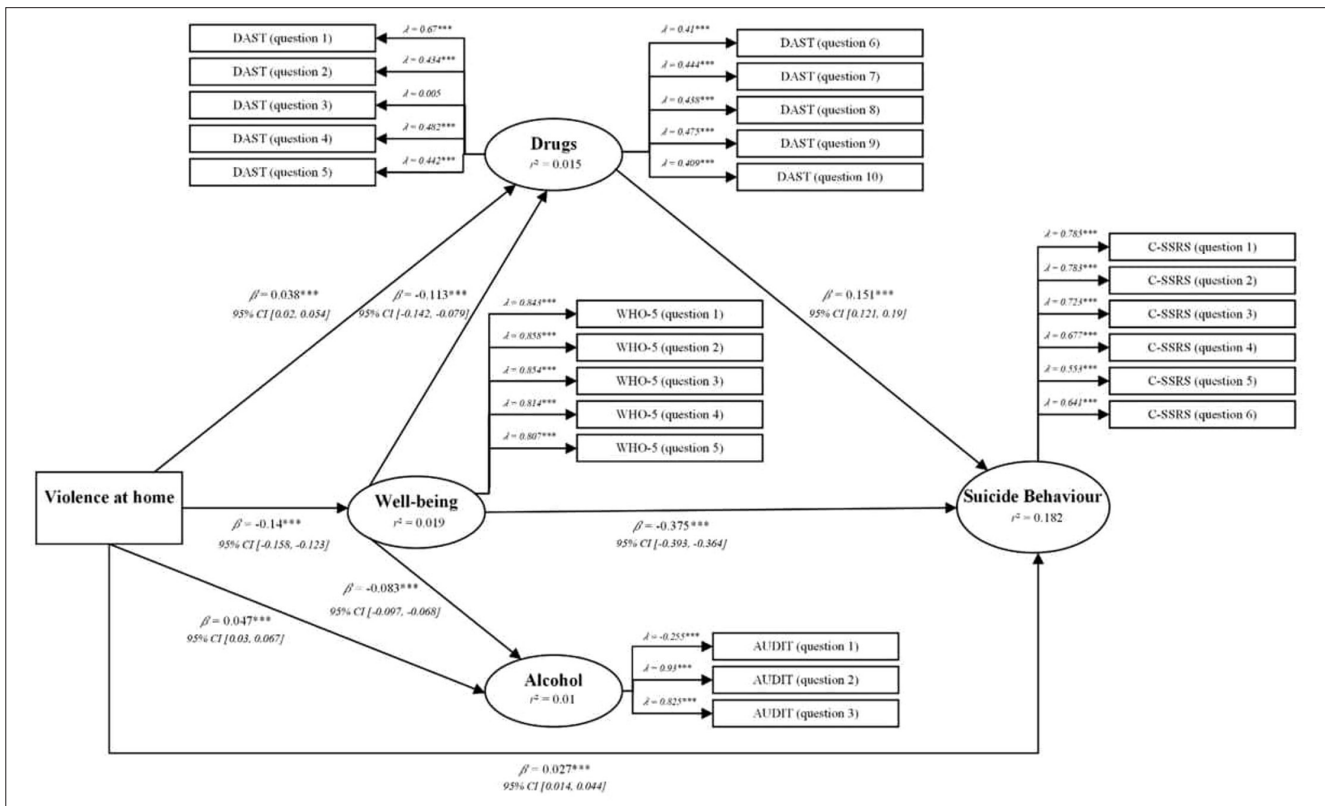
The present study endeavors to examine the influence of violence at home, alcohol and drug abuse, and overall well-being on suicide rates in the Yucatan population, spanning from adolescence to adulthood.

**Figure 1.** The General Partial Least Squares Structural Equation Modelling Bootstrap Model for the Yucatan Population Surveyed.



The present study addresses the limitations of prior research in suicidal behavior by utilizing a PLS-SEM, which allows for the simultaneous analysis of the effects of domestic violence on various variables, such as AOD and well-being, to determine the root cause of suicidality.

Research has demonstrated an association between domestic violence and suicidal behavior, particularly among males. The negative impact of emotional abuse in a domestic setting on mental health has been found to lead to preventable morbidity and mortality (Fischbach, & Herbert, 1997). However, the present study



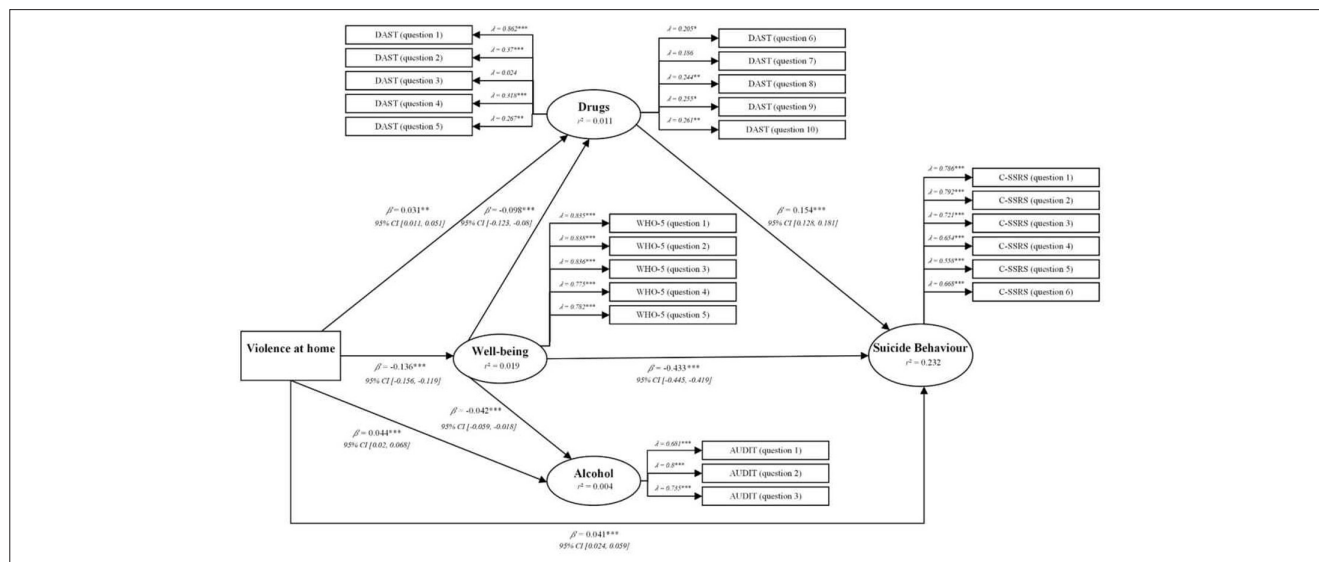


Figure 3. Partial Least Squares Structural Equation Modelling Bootstrap Model Structure for Study Population Under 25.

has determined that the effect of domestic violence on suicidality varies for men and women in the Yucatan region. In the case of Mexican males, violence in the home appears to have a noteworthy impact on their likelihood of suicide (Dávila Cervantes et al., 2015; Sánchez-Barriga, 2023), potentially due to a variety of factors. Two nationally conducted studies in Mexico in 2020 and 2021 examined the social determinants associated with suicidal ideation within the population. The first study identified several significant risk factors, including being a young woman, educational attainment, single marital status, unemployment, adherence to social distancing measures, living alone, loss of a family member due to COVID-19, a diagnosis of depression, experiences of physical violence, excessive alcohol consumption, drug use, and suspicion or diagnosis of Covid-19 (Gómez-García et al., 2023). The second study found that individuals who had experienced physical violence exhibited a more than sixfold increase in the prevalence of suicide attempts in the country, with findings indicating no significant differences between genders (Valencia et al., 2023).

Recent findings suggest that intimate partner violence may be a precursor to a significant number of male suicides (Kafka et al., 2022), underscoring the need for targeted interventions such as suicide screening and referral programs for this subpopulation (Martínez-Nicolás et al., 2022b). A similar study conducted in Spain after the pandemic showed that family violence, specifically physical abuse, and parental mental illness were the main factors contributing to an increased risk of male suicidal behavior (Navarro-Mateu et al., 2024). Other studies have also shown that losing a close personal relationship, typically a domestic partner, is a common factor among alcoholic men who commit suicide.

The present study has also revealed that poor psychological well-being affected approximately a quarter of the surveyed population in the State of Yucatan. Additionally, in the same period, a recent study undertaken in the State of Jalisco in response to the psychosocial impact of the coronavirus (COVID-19) pandemic

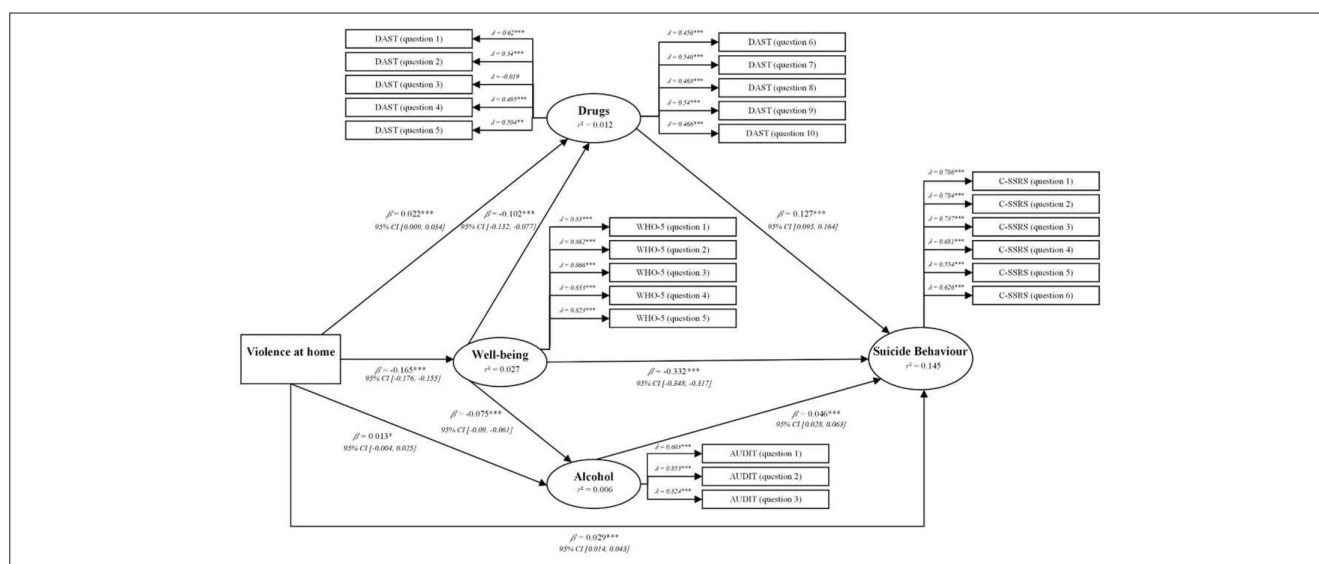


Figure 3.1. Partial Least Squares Structural Equation Modelling Bootstrap Model Structure for Study Population Older than 25.

found that 26.8% of adolescents self-reported suicidal ideation (Gómez Delgado et al., 2024). This figure is similar to the 21.6% observed in the State of Yucatan sample, which includes all life-span stages. The primary predictors identified for this type of suicidal behavior between both studies included health-related quality of life (e.g., violence at home) and low psychological well-being, in addition to AOD use or abuse stemming from impulsive behaviors that may be attempts to cope with emotional problems or a dysfunctional form of tolerating distress, among other contextual factors. Certainly, well-being is significantly associated with suicidality in the Yucatan population, irrespective of the sociodemographic factors under consideration. The present study was conducted in the aftermath of the COVID-19 pandemic, which has had a significant impact on global well-being.

Another recent American study investigating the relationship between well-being and suicidality during a comparable post-COVID period has demonstrated that higher levels of psychological well-being were associated with a reduced risk of suicidal ideation, recent suicide attempts, and non-suicidal self-injury (McCollum et al., 2025). It also observed that well-being did not serve as a moderating factor in the relationship between intimate partner violence and suicidality. In contrast, the present study found that well-being mediated the relationship between domestic violence and suicidality. This discrepancy may be influenced by the type of violence studied, among other psychological and contextual factors. Particularly in Mexico (Baca-García et al., 2022a, Martínez-Nicolás et al., 2022b), depression was the primary factor influencing higher anxiety levels, the risk of suicidal behavior, and lower levels of self-perceived well-being among high school and university students. Two other recent Mexican studies conducted before and after the outbreak found a marked increase in the incidence of suicidal ideation during the post-COVID-19 period (Borges et al., 2022; Borges et al., 2024). The largest surge in the number of suicides was attributed to men, who have been disproportionately affected by unemployment during the pandemic, and among those with a heightened sense of vulnerability, poor coping mechanisms, and pre-existing mental illnesses (Borges et al., 2024).

Regarding AOD use and suicidal behavior, according to Romero-Pimentel et al. (2018), on one hand, the retired Mexican men who committed suicide were more likely to consume alcohol. Among those who tested positive for any substance, alcohol was the principal substance used at the time of death for both genders, followed by other drugs such as cocaine, inhalants, and sedatives for men, and cocaine for women. The study found that nearly 54% of male victims were alcohol users, and 40% were positive in the toxicology test at the time of death. However, the present findings suggest that the Yucatan male population did not develop suicidal behaviors due to alcohol consumption, as drug use and domestic violence were identified as predictors of suicidality. It is remarkable that women who use alcohol present suicidal behaviors, which differs from the traditional fact that Mexican men who use alcohol are more likely to commit suicide.

According to Conner and colleagues (2010), Latin American populations face cultural challenges in identifying problems with substance abuse due to religious factors. Additionally, the complexity of disentangling life events and drinking adds to the difficulty of addressing the issue. The prevalence of alcohol use

among battered American women compared to men is consistent with current findings regarding alcohol use in females cited in this study. Indeed, a psychological autopsy study analyzing the period between 2007 and 2014 in the State of Tabasco revealed that females were older than males, mostly housewives with more years of schooling, yet did not consume alcohol at the time of their death (González-Castro et al., 2016). Based on the current findings, it can be inferred that women from the State of Yucatan who use alcohol exhibit suicidal behaviors. The initial step towards suicidality is a complex issue that requires careful consideration. A noteworthy study conducted in Mexico about suicide notes revealed that an array of factors was associated with suicide in this Latin American country, particularly interpersonal problems (Chávez-Hernández et al., 2006). This highlights the significance of addressing interpersonal issues early on and underscores the importance of promoting mental health and well-being.

Limitations and Directions/Suggestions for Future Research

It is important to note that this study is not without its limitations. On one hand, the screening process conducted through [Blinded for Review] app utilized a non-probabilistic sample to elicit responses that are comparable to those obtained from previous Mexican studies conducted with student populations. Another limitation of this study is that individuals without access to smartphones may have been excluded, although local reports suggest that the majority of participants owned one. A third limitation pertains to the utilization of an abbreviated versions of the original AUDIT and the measure for domestic violence. This single-item strategy is commonly used to estimate the national prevalence of interpersonal violence victimization in Mexico (Valencia et al., 2023). However, subsequent research endeavors could consider employing a comprehensive psychometric scale to estimate the construct of violence and its correlation with SB. While the results obtained through the PLS-SEM methodology were deemed acceptable given the exploratory nature of this study, some analytical limitations were still reported.

In conclusion, the present study aimed to investigate the predictive value of domestic violence and addictive behaviors on suicidal tendencies, considering the role of well-being in a large sample of late adolescents and adults from the State of Yucatan, Mexico. To achieve this, the TEDUCA survey was administered via the [Blinded for Review] smartphone app as an early detection tool, and the data were descriptively and relationally analyzed using PLS-SEM analysis. The findings indicated that a fifth of the sample displayed suicidal behaviors to some degree, while a third experienced violence at home, a fourth low well-being, an 8% high alcohol risk use and a 5% drug use. Nevertheless, the main predictor of suicidal behavior was drug use, while alcohol use was only a risk factor for women, and violence at home for men. Interestingly, women exhibited a link between violence at home, addictive behaviors, and suicidal tendencies, while men demonstrated a direct relationship between violence at home and suicidality, mediated only by drug use. Furthermore, no association between alcohol use and suicidality was observed in younger age groups, although these groups were usually students. These findings indicate that violence at home and substance abuse contribute to suicidality in various age cohorts in the Yucatan population as risk factors. Early identification and individualized treatment options for individuals at risk of suicide are

paramount. However, further research encompassing diverse sociodemographic groups and employing alternative scales may yield more comprehensive and precise insights into predicting suicidality to develop prevention programs.

Data Availability Statement: Data supporting the results of the present study will be made available from the corresponding author upon reasonable request.

Ethics Committee Approval: This prospective cohort study was undertaken from January to December 2022 in the State of Yucatan (Mexico), which complied with the principles outlined in the Declaration of Helsinki (World Medical Association, 2013). Ethical approval (002/2019) was granted by the Ethics Review Board of the ‘Hospital Psiquiátrico Yucatán’, Yucatan (Mexico).

Informed Consent: Informed consent was obtained from participants who agreed to take part in the study.

Peer-review: Externally peer-reviewed.

Author Contributions: Concept – E.B.G., O.L.F.; Design – F.A.B.B., E.B.G., C.M.P., P.M.B.; Supervision – E.B.G.; Resources – F.A.B., C.M.P.; Materials – C.M.P.; Data Collection and/or Processing – C.M.P., P.V.S.; Analysis and/or Interpretation – P.V.S., I.M.M., O.L.F.; Literature Search – O.L.F.; Writing Manuscript – O.L.F., I.M.M., P.V.S.; Critical Review – E.B.G., O.L.F., F.A.B.B., C.M.P., P.M.B., F.A.B., P.V.S., I.M.M.

Declaration of Interests: E.B.G. has been a consultant to, or has received honoraria or grants from, Janssen Cilag, Lundbeck, Otsuka, Pfizer, Servier, and Sanofi. E.B.G. designed the MEMIND application. The other authors have no conflict of interest to declare.

Funding: This research was supported by CIBER - Consorcio Centro de Investigación Biomédica en Red (código CIBER), Instituto de Salud Carlos III, Ministerio de Ciencia e Innovación, and Unión Europea – European Regional Development Fund (ISCIII PI20/01555); by Ministerio de Ciencia e Innovación/a Agencia Estatal de Investigación MCIN/AEI/10.13039/501100011033 and “NextGenerationEU”/PRTR (TED2021-131120B-I00); by the Madrid Regional Government S2022/BMD-7216, AGES 3-CM; and by Fundació La Marató de TV3 (202226-31).

References

- Berrouiguet, S., Courtet, P., Perez-Rodriguez, M., Oquendo, M., & Baca-García, E. (2015). The Memind Project: a New Web-based Mental Health Tracker Designed for Clinical Management and Research. *European Psychiatry*, 30(S1), 1. [\[CrossRef\]](#)
- Arenas-Castañeda, P. E., Bisquert, A., Martínez-Nicolas, F., Castillo Espíndola, I., Barahona, L. A., Maya-Hernández, I., Lavana Hernández, C., Manrique, M. M., Mirón, P. C., Barrera, A., Treviño, D. G., Aguilar, E., Barrios Núñez, A., De Jesus Carlos, G., Vildosola Garcés, A., Flores Mercado, J., Barrigon, M. L., Artes, A., De Leon, S., Molina-Pizarro, C. A., Franco, R., & Baca-García, A. E. (2020). Universal mental health screening with a focus on suicidal behaviour using smartphones in a Mexican rural community: Protocol for the SMART-SCREEN population-based survey. *British Medical Journal Open*, 10(7), e035041. [\[CrossRef\]](#)
- Baca-García, E., & Barrigón, M. L. (2022a). Impact of Depression on Anxiety, Well-being, and Suicidality in Mexican Adolescent and Young Adult Students From Mexico City: A Mental Health Screening Using Smartphones. *The Journal of Clinical Psychiatry*, 83(3), 20m13806. [\[CrossRef\]](#)
- Martínez-Nicolás, I., Molina-Pizarro, C.A., Franco, A.R., Arenas Castañeda, P. E., Maya C., Barahona I., Martínez-Alés, G., Aroca Bisquert, F., Delgado-Gomez, D., Dervic, K., Lopez-Fernandez, O., Baca-García, E., & Barrigón M. L. (2022b). What seems to explain suicidality in Yucatan Mexican young adults? Findings from an app-based mental health screening test using the SMART-SCREEN protocol. *Current Psychology*, Online. [\[CrossRef\]](#)
- Al-Halabí, S., Sáiz, P. A., Burón, P., Garrido, M., Benabarre, A., Jiménez, E., Cervilla, J., Navarrete, M. I., Díaz-Mesa, E. M., García-Álvarez, L., Muñiz, J., Posner, K., Oquendo, M. A., García-Portilla, M. P., & Bobes, J. (2016). Validation of a Spanish version of the Columbia-Suicide Severity Rating Scale (C-SSRS). *Revista de Psiquiatría y Salud Mental*, 9(3), 134 – 142. [\[CrossRef\]](#)
- Baca García, E., & Aroca, F. (2014). Factores de riesgo de la conducta suicida asociados a trastornos depresivos y ansiedad. *Salud Mental*, 37(5), 373 – 380. [\[CrossRef\]](#)
- Becker, J. M., Ringle, C. M., Sarstedt, M., & Völckner, F. (2015). How collinearity affects mixture regression results. *Marketing Letters*, 26(4), 643 – 659. [\[CrossRef\]](#)
- 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. [\[CrossRef\]](#)
- Borges, G., Orozco, R., Gunnell, D., Gutiérrez-García, R. A., Albor, Y., Quedo Chávez, G. E., Hernández Uribe, P. C., Cruz Hernández, S., Covarrubias Díaz Couder, M. A., Alonso, J., Medina-Mora, M. E., & Benjet, C. (2024). Suicidal ideation and behavior among Mexican university students before and during the COVID-19 pandemic. *Archives of Suicide Research : Official Journal of the International Academy for Suicide Research*, 28(1), 342 – 357. [\[CrossRef\]](#)
- Brown, S., & Seals, J. (2019). Intimate partner problems and suicide: Are we missing the violence? *Journal of Injury and Violence Research*, 11(1), 53 – 64. [\[CrossRef\]](#)
- Chávez-Hernández, A. M., Páramo, D., Leenaars, A. A., & Leenaars, L. (2006). Suicide notes in Mexico: What do they tell us? *Suicide and Life-Threatening Behavior*, 36(6), 709 – 715. [\[CrossRef\]](#)
- Darvishi, N., Farhadi, M., Haghtalab, T., & Poorolajal, J. (2015). Alcohol-related risk of suicidal ideation, suicide attempt, and completed suicide: A meta-analysis. *PLoS One*, 10(5), e0126870. [\[CrossRef\]](#)
- Dávila Cervantes, C. A., Ochoa Torres, M.d.elP., & Casique Rodríguez, I. (2015). Analysis of the impact of mortality due to suicides in Mexico, 2000 – 2012 [Análisis del impacto de la mortalidad por suicidios en México, 2000 – 2012]. *Salud Colectiva*, 11(4), 471 – 484. [\[CrossRef\]](#)
- Fischbach, R. L., & Herbert, B. (1997). Domestic violence and mental health: Correlates and conundrums within and across cultures. *Social Science and Medicine*, 45(8), 1161 – 1176. [\[CrossRef\]](#)
- Gómez Delgado, G., Ponce Rojo, A., Ramírez Mireles, J. E., Carmona-Moreno, F. J., Flores Salcedo, C. C., & Hernández Romero, A. M. (2024). Suicide risk factors in high school students. *International Journal of Environmental Research and Public Health*, 21(8), 1055. [\[CrossRef\]](#)
- Gómez-García, J. A., Rivera-Rivera, L., Astudillo-García, C. I., Castillo-Castillo, L. E., Morales-Chañé, S., & Tejadilla-Orozco, D. I. (2023). Determinantes sociales asociados con ideación suicida durante la pandemia por Covid-19 en México. *Salud Publica de Mexico*, 65, 1 – 9. [\[CrossRef\]](#)
- González-Castro, T. B., Hernández-Díaz, Y., Tovilla-Zárate, C. A., González-Gutiérrez, K. P., Fresán, A., Juárez-Rojop, I. E., López-Narváez, L., Villar Soto, M., & Genis, A. (2016). Differences by gender in completed suicides in a Mexican population: A psychological autopsy study. *Journal of Forensic and Legal Medicine*, 38, 70 – 74. [\[CrossRef\]](#)
- Hair, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2017). *A primer on partial least squares structural equation modeling (PLS-SEM)* (2nd ed). Sage Publications Inc.
- Hair, Jr., J. F., Hult, G. T. M., Ringle, C. M., Sarstedt, M., Danks, N. P., & Ray, S. (2021). *Partial least squares structural equation modeling (PLS-SEM) using R: A workbook* (p. 197). Springer Nature. [\[CrossRef\]](#)

- Henseler, J., Ringle, C. M., & Sinkovics, R. R. (2009). The use of partial least squares path modeling in international marketing. In R. R. Sinkovics & P. N. Ghauri (Eds.). *New challenges to international marketing (advances in international marketing, vol. 20)* (pp. 277 – 319). Emerald Group Publishing Limited. [\[CrossRef\]](#)
- Kafka, J. M., Moracco, K. B. E., Taheri, C., Young, B. R., Graham, L. M., Macy, R. J., & Proescholdbell, S. (2022). Intimate partner violence victimization and perpetration as precursors to suicide. *SSM - Population Health*, 18, 101079. [\[CrossRef\]](#)
- McCollum, D. C., Smathers, S. E., Sullivan, T., Jowaheer, Y., & Mereish, E. H. (2025). Associations among intimate partner violence, suicidal ideation, suicide behaviors, non-suicidal self-injury, and psychological well-being in Black American emerging adults. *Suicide and Life-Threatening Behavior*, 55(1), e13102. [\[CrossRef\]](#)
- Mrug, S., & Windle, M. (2010). Prospective effects of violence exposure across multiple contexts on early adolescents' internalizing and externalizing problems. *Journal of Child Psychology and Psychiatry, and Allied Disciplines*, 51(8), 953 – 961. [\[CrossRef\]](#)
- Navarro-Mateu, F., Salmerón, D., Vilagut, G., Husky, M., Ballesta, M., Chirlaque, M. D., Huerta, J. M., Martínez, S., Navarro, C., Alonso, J., Nock, M., & Kessler, R. C. (2024). Childhood adversities and suicidal behavior in the general population. The cross-sectional Pegasus-Murcia Project. *Spanish Journal of Psychiatry and Mental Health*, 17(1), 11 – 18. [\[CrossRef\]](#)
- Olguin, H. J., Garduño, L. B., Pérez, J. F., Bastida, M. A., & Flores-Pérez, C. (2011). Frequency of suicide attempts by ingestion of drugs seen at a tertiary care pediatric hospital in Mexico. *Journal of Population Therapeutics and Clinical Pharmacology / Journal de la Therapeutique des Populations et de la Pharmacologie Clinique*, 18, e161 – e165.
- Pérez Gálvez, B., García Fernández, L., de Vicente Manzanaro, M. P., Oliveras Valenzuela, M. A., & Lahoz Lafuente, M. (2010). Spanish Validation of the Drug Abuse Screening Test (DAST-20 y DAST-10)/Validación española del Drug Abuse Screening Test (DAST-20 y DAST-10). *Health and Addictions/Salud y Drogas*, 10(1), 35 – 50. [\[CrossRef\]](#)
- Reyes-Foster, B. (2013). The devil made her do it: Understanding suicide, demonic discourse, and the social construction of 'Health' in Yucatan, Mexico. *Journal of Religion and Violence*, 1(3), 363 – 381. [\[CrossRef\]](#)
- Riou, J., Guyon, H., & Falissard, B. (2016). An introduction to the partial least squares approach to structural equation modelling: A method for exploratory psychiatric research. *International Journal of Methods in Psychiatric Research*, 25(3), 220 – 231. [\[CrossRef\]](#)
- Romero-Pimentel, A. L., Mendoza-Morales, R. C., Fresan, A., Garcia-Dolores, F., Gonzalez-Saenz, E. E., Morales-Marin, M. E., Nicolini, H., & Borges, G. (2018). Demographic and clinical characteristics of completed suicides in Mexico City 2014 – 2015. *Frontiers in Psychiatry*, 9, 402. [\[CrossRef\]](#)
- Rubio Valladolid, G., Bermejo Vicedo, J., Caballero Sánchez-Serrano, M. C., & Santo-Domingo Carrasco, J. (1998). Validación de la prueba para la identificación de trastornos por uso de alcohol (AUDIT) en Atención Primaria [Validation of the Alcohol Use Disorders Identification Test (AUDIT) in primary care]. *Revista Clinica Espanola*, 198(1), 11 – 14.
- Sánchez-Barriga, J. (2023). Mortality trends from suicide by state and socioeconomic region. Mexico, 2000-2016. *Papeles de Población*, 28(113), 71 – 95.
- Shmueli, G., & Koppius, O. R. (2011). Predictive analytics in information systems research. *MIS Quarterly*, 35(3), 553 – 572. [\[CrossRef\]](#)
- Valencia, P. D., Díaz-Vásquez, L., Villacorta-Landeo, P., Berrospi-Lara, T., Cedillo-Balcázar, J., & De la Rosa-Gómez, A. (2023). Depression, suicide attempts, and exposure to physical attacks: A nationwide cross-sectional survey in Mexico. *Journal of Public Health*, 1 – 9. [\[CrossRef\]](#)
- World Health Organization (WHO) (2021). *Suicide. Suicide rates*. <https://www.who.int/data/gho/data/themes/mental-health/suicide-rates>.
- Zygo, M., Pawłowska, B., Potembska, E., Dreher, P., & Kapka-Skrzypczak, L. (2019). Prevalence and selected risk factors of suicidal ideation, suicidal tendencies and suicide attempts in young people aged 13 – 19 years. *Annals of Agricultural and Environmental Medicine: AAEM*, 26(2), 329 – 336. [\[CrossRef\]](#)

Geniřletilmiř zet

Meksika’da Bağımlılık Sorunları, Aile İi Şiddet ve Sınırlı İyilik Durumunun İntihar Riski Üzerindeki Rolü

Giriř: Aile ii řiddet ve madde kullanımı, intihar davranıřıyla iliřkili nemli psiko-sosyal etkenlerdir. Meksika’da bu faktrlerin intihar eęilimi ile yksek dzeyde iliřkili olduęu; ergenlikten yařlılık dnemine kadar geniř yař aralıklarında gzlemlendięi bildirilmiřtir. zellikle depresyon ve alkol bağımlılıęı gibi madde bağımlılıkları olan geniř erkekler, bu aıdan olduka savunmasızdır. Bu bağlamda, Yucatán Eyaleti, lkenin dięer blgelerine kıyasla intihar oranlarının iki katına ulařtıęı, en yksek intihar oranlarının kaydedildięi blgelerden biridir. Madde kullanım bozukluęu tanısı alan bireyler, toplum rneklemelerine kıyasla genellikle daha yksek intihar riski tařıtmaktadır. Bu bireylerde zaman saldırgan davranıřlar da gzlemlenebilmekle birlikte, bu deęiřkenler arasındaki iliřkilerin arařtırılması, bağımlılık sorunu yařayan bireylerde artan intihar riskinin anlařılmasına deęerli katkı saęlayabilir. Bu alıřma, Yucatán’da cinsiyet ve yař gruplarına gre aile ii řiddet, alkol ve dięer uyυřturucu maddelerin (AOD) kullanımı, iyilik durumu ve intihar eęilimi arasındaki iliřkiyi incelemeyi amalamaktadır.

Yntem: Arařtırma, 2022 yılında gerekleřtirilen kesitsel bir alıřma olup, 15 – 80 yař aralıęında 32.531 katılımcının, SmartScreen protokol kullanılarak [inceleme iin gizlenmiřtir] adlı mHealth (mobil saęlık) uygulaması zerinden TEDUCA anketi aracılıęıyla veri toplama yntemiyle yrtlmřtir. alıřmada kullanılan temel deęiřkenler řunlardır: Aile ii řiddet; intihar davranıřı (Columbia-İntihar Şiddetini Deęerlendirme leęi - C-SSRS); alkol kullanımı (Alkol Kullanım Bozuklukları Tanıma Testi’nin kısa formu - AUDIT-C); madde kullanımı (Madde Ktye Kullanımı Tarama Testi’nin kısa formu - DAST-10); znel iyilik hali (Dnya Saęlık rgt-5 İyilik Durumu İndeksi - WHO-5) ve sosyodemografik deęiřkenler (cinsiyet ve yař grubu: <25 ve ≥25 yař). Veriler, Kısmi En Kk Kareler Yapısal Eřitlik Modellemesi (PLS-SEM) ile analiz edilmiřtir.

Bulgular: rneklemenin yař medyanı 32 olup, katılımcıların te biri 25 yař altındadır (yani ęrenciler). Katılımcıların te biri dzenli olarak aile ii řiddete maruz kaldıęını bildirmiř, drtte biri dřk dzeyde iyilik durumu belirtmiř, %8’i yksek intihar riski, %8’i yksek dzeyde alkol kullanım riski ve %5’i madde kullanımı bildirmiřtir. Toplam rneklemenin %21,6’sında herhangi bir dzeyde intihar riski saptanmıřtır. PLS-SEM analizinden nce deęiřkenler arasında yapılan ikili korelasyon analizlerinde tm deęiřken çiftleri arasında istatistiksel olarak anlamlı farklılıklar saptanmıřtır. Ancak iliřki dzeyi ok zayıftan orta dzeye kadar deęiřmiřtir (rneęin, C-SSRS ile AUDIT-C arasında $r = -0,01$; WHO-5 ile C-SSRS arasında $r = -0,45$). Devamında PLS-SEM hesaplanmıř ve modeller bařarılı bir lm sergilemiřtir. PLS-SEM modellemesi sonucunda genel modelde aile ii řiddet ve madde kullanımı intihar davranıřıyla pozitif ynde iliřkili bulunurken, iyilik durumu ile intihar davranıřları arasında ters ynl bir iliřki saptanmıřtır. Alkol kullanımı ise sadece intihar davranıřıyla pozitif ynde iliřki gstermiřtir. Cinsiyet deęiřkenine gre oluřturulan modellemede, kadınlarda aile ii řiddet ile alkol kullanımı arasında doęrudan bir iliřki; erkeklerde ise aile ii řiddet ile intihar eęilimi arasında doęrudan bir iliřki tespit edilmiřtir. Yař gruplarına gre yapılan analizlerde ise geniř yař grubunda alkol kullanımı ile intihar eęilimi arasında anlamlı bir iliřki bulunmamıřtır.

Tartıřma: Yucatán blgesi, dnya genelinde en yksek intihar oranlarına sahip blgelerden biri olup, bu blgede aile ii řiddetin intihar eęilimleri zerindeki etkisi cinsiyete gre farklılık gstermektedir. Meksikalı erkekler aısından deęerlendirildięinde, fiziksel řiddet ve partner řiddeti gibi bir dizi faktr nedeniyle aile ii řiddetin intihar olasılıęı zerinde etkili olduęu grlmekte olup, bu durum sz konusu risk grubuna ynelik hedef odaklı mdahalelerin gereklilięini ortaya koymaktadır. İřpanya’da pandemi sonrası dnemde aile ii řiddet zellikle fiziksel istismar ve ebeveyn ruh saęlıęı sorunları erkeklerde intihar riskini artıran temel etkenler olarak belirlenmiřtir. Bununla birlikte, Meksika ve benzeri Hispanik lkelerde ise yakın bir iliřkinin kaybı veya COVID-19 sonrası dnemde yařanan iřsizlik gibi ek risk faktrleri ne çıkmaktadır. Mevcut alıřma, Yucatán halkı arasında dřk iyilik durumunun sosyodemografik farklılıklardan bağımsız olarak intihar eęilimi ile anlamlı biimde iliřkili olduęunu gstermiřtir. AOD kullanımı ve intihar davranıřı bağlamında, emekli Meksikalı erkeklerin intihar ettikleri sırada alkol kullandıkları belirlenmiřtir; her iki cinsiyette de alkol kullanımını genellikle dięer maddeler (erkeklerde kokain, inhalanlar, sedatifler; kadınlarda kokain) takip etmektedir.

Ancak bu alıřmada Yucatán’daki erkek katılımcılarda alkol kullanımının doęrudan intiharla iliřkili olmadıęı, bunun yerine madde kullanımı ve aile ii řiddetin intihar davranıřlarının belirleyicileri olduęu gzlemlenmiřtir. Kadın katılımcılar arasında ise alkol kullanımı intihar davranıřı ile anlamlı bir iliřki sergilemiř ve bu bulgu, Meksika’da erkeklerin intihar eęiliminin daha yksek olduęu ynndeki mevcut literatrle farklılık gstermektedir. Yucatan Eyaleti’nde alkol kullanan kadınlara meyilli davranıřlar sergiledięi grlmektedir. Bu alıřmanın sınırlılıkları arasında, tarama srecinin bir mobil saęlık uygulaması (mHealth) olan [inceleme iin gizlenmiřtir] aracılıęıyla yrtlması ve bu kapsamda olasılıęa dayalı olmayan (non-probabilistic) bir rnekleme stratejisiyle kitlesel veri toplanmıř olması yer almaktadır. Bununla birlikte, COVID-19 sonrası dnemde bu Meksika Eyaleti’nde bu yntem halk saęlıęı aısından uygulanabilir bir zm sunmuř olsa da, akıllı telefona eriřimi olmayan bireylerin alıřmaya dahil edilmemesi, zellikle kırsal kesimde yařayan, dřk eęitim dzeyine sahip veya belirli yař grubundaki bireyler gibi yksek intihar riski altındaki grupların temsil edilmesini engellemiř olabilir.

Yönteme ilişkin olarak, kullanılan ölçüm araçlarının orijinal ölçeklerin kısaltılmış formları olması ve aile içi şiddetin yalnızca tek bir madde ile değerlendirilmesi, metodolojik açıdan geliştirilmesi gereken yönler arasında yer almaktadır. Bununla birlikte, bu son yaklaşım Meksika’da kişiler arası şiddet mağduriyetinin yaygınlığını tahmin etmek amacıyla sıkça kullanılmaktadır. Her ne kadar PLS-SEM yaklaşımı mevcut araştırmadaki gibi keşifsel çalışmalarda kabul edilebilir olsa da, bazı analitik sınırlılıklar barındırdığı unutulmamalıdır.

Sonuç olarak, Yucatán Eyaleti örnekleminin beşte biri intihar davranışı göstermiş, üçte biri aile içi şiddete maruz kalmış, dörtte biri düşük düzeyde iyilik durumuna sahip olduğunu bildirmiştir. Katılımcıların %8’i yüksek alkol kullanım riski, %5’i ise madde kullanımı bildirmiştir. İntihar eğiliminin en güçlü yordayıcısı madde kullanımı olarak öne çıkarken, alkol kullanımı yalnızca kadınlar için bir risk faktörü, aile içi şiddet ise erkekler için belirleyici unsur olmuştur. Kadınlarda aile içi şiddet, bağımlılık davranışları ve intihar eğilimleri arasında belirgin bir ilişki saptanırken; erkeklerde aile içi şiddet ile intihar eğilimi arasındaki ilişki, sadece madde kullanımı aracılığıyla anlam kazanmıştır. Ayrıca genç yaş gruplarında alkol kullanımı ile intihar eğilimi arasında anlamlı bir ilişki bulunmamıştır. Dolayısıyla, aile içi şiddet ve madde kullanımı, Yucatán bölgesinde farklı yaş gruplarında intihar eğilimi açısından önemli risk faktörleri olarak değerlendirilmektedir.