

## Online-only supplementary material

### Appendix: Search Strategy

**PubMed:** (((Adolescent\*) AND (Suicide\*)) AND ("Risk factor" OR "Protective factor")) AND (Treatment compliance OR Patient compliance OR Treatment adherence OR Treatment Drop Out OR Early termination OR Treatment Use OR Treatment Attrition)

**LILACS:** Adolescent\* AND suicide\* AND (risk factor OR protective factor) OR (treatment compliance OR patient compliance OR Treatment retention OR Treatment Adherence OR Treatment Drop Out OR Early termination OR Treatment Use OR Treatment Attrition)

**Google:** allintitle: Adolescent OR Adolescents Suicide OR suicidal "Treatment compliance" OR "Patient compliance" OR "Treatment adherence" OR "Treatment Drop Out" OR "Early termination" OR "Treatment Use" OR "Risk factors" OR "Protective factors" OR "Treatment Attrition"

**Table S1** Factors associated with MHS utilization and treatment compliance in patients with SB (SI, SA, or CS)

Study	Country	Sample size	Age range (years)	Study design	Follow-up time	Sample details	Outcomes	Compliance findings	Risk or protective factors for SI, SA, and CS	Limitations
MHS utilization Springer et al. <sup>1</sup>	El Salvador	930	12-19	Cross	—	Students from randomly selected schools	Association of risk behavior variables with parental support and social cohesion at school	Parents' perceived need for MHT: ↑ MHS utilization Latinos: ↓ MHS utilization	RFs: female sex, urban resident	Did not evaluate confounding variables that influence health care other than school/parent support
Kataoka et al. <sup>2</sup>	United States	95	12.5 (SD 2.98)	Longitudinal	5 months	Youth suicide prevention program students from the YSPF study	Symptomatology and MHS utilization by students after contact with the YSPF	- Latinos: ↓ rates of community MHS utilization, but no differences in utilization of school-based services - ↑ MHS utilization: ↑ Depressive symptoms, parental perceived need for services, and being non-Latino	—	- Parental report - Small sample - Quality and time of treatment not known - Not all barriers to treatment were assessed
Freedenthal <sup>3</sup>	United States	2,226	12-17	Cross	—	Secondary data from the 2000 National Household Survey on Drug Abuse (data only)	Rates and predictors of MHSU among Black, Hispanic, and White youth with SI or SA in the past year, controlling for need for care and ability to secure services	- 29.07% reported MHS utilization in the past 12 months - Whites had the highest rates of MHSU, even controlling for ability to secure services, need for care and other potential confounders White > Black > Hispanic - White race, SA, and psychiatric symptoms predicted MHSU	—	- Unknown if service utilization was predated by correlates - No information about severity or timing of SI/SA - Omission of school-based mental health programs - Self-report
Burns et al. <sup>4</sup>	United States	85	13-18	Longitudinal	2 years	Adolescents who attempted suicide	MHS utilization by adolescents after SAs Factors related to treatment compliance and relationship between	- Disruptive behavior: ↓ psychotherapy - MDD/Anxiety: ↓ psychopharmacotherapy - Parental perceptions of treatment as helpful: ↑ MHS utilization - Compliance with treatment not generally preventive of future SB	RF: sex, family composition, and ethnic characteristics	- Recruitment and attrition rates - Sample of inpatient adolescents - Large proportion of White female adolescents with high socioeconomic status - Self-reported data

Study	Country	Sample size	Age range (years)	Study design	Follow-up time	Sample details	Outcomes	Compliance findings	Risk or protective factors for SI, SA, and CS	Limitations
Ramchand et al. <sup>5</sup>	United States	948	15,99 (SD 1,36)	Longitudinal	12 months	Adolescent Treatment Models program – six treatment sites (residential treatments, outpatient programs, and short-term residential programs)	Prevalence of SI and SA in youth receiving treatment for SU abuse - Characteristics of patients with SI and SA - Type of follow-up care in MHS of those presenting SI or SA	- Half outpatient; one-third medication - Past treatment (1 year) was the strongest predictor of continuing treatment at 3 months - Past SI/SA (1 year) predicted outpatient care in 3 months, while being older was a predictor of receiving less outpatient treatment - SI, Black and Hispanic received fewer drug prescriptions and were more likely to receive ED or overnight at hospital - Being female also predicted hospital or ED care at 3 months	- RF (SI): past year SI, past conduct disorder and depression, receiving MHSU previous to study, female, Black and Hispanic - RF (SA): Past SI, conduct disorders, previous MHS utilization	- Do not have data on CS, no detailed information on the type of MHS and compliance to treatment and medication - Attrition bias (loss of Blacks on 3 month assessment)
Groholt & Ekeberg <sup>6</sup>	Norway	71	13-19	Longitudinal	9 years	General hospital patients admitted after SAs	Prevalence of psychiatric disorders and RSAs 8-10 years after SA	- ↓ Compliance shortly after SA - ↑ Psychiatric treatment later	RF: ↑ BDI scores at baseline	- No structured diagnostic interview at baseline - No coinformants at 18 months - Recall bias for previous treatment - Small sample size - 90% girls
O'Mara <sup>7</sup>	United States	96	12-17	Longitudinal	6 years	Previously hospitalized adolescents with suicidal behavior	Relationship between history of sexual abuse and psychological outcomes, social functioning, and MHT	No differences in utilization of MHT, SU, or legal services between those with vs. without history of sexual abuse	Predicted current SI: baseline hopeless, current MDD	- Retention and sample size (43% of the initial sample) - Homogeneity of the sample - Recall bias
Renaud et al. <sup>8</sup>	Canada	55	11-18	Cross/CC	—	Adolescents who committed suicide in Quebec vs. healthy controls	Utilization of health care services prior to suicide (different time periods) by adolescents	- Two-thirds did not have access to appropriate health care services - 12.7% had been in contact with psychiatric services in the previous month - 54.4% of those who received	RF: sex, psychiatric disorders, previous SA, poor compliance with MHSs	- Small sample size - CS

Study	Country	Sample size	Age range (years)	Study design	Follow-up time	Sample details	Outcomes	Compliance findings	Risk or protective factors for SI, SA, and CS	Limitations
Wu et al. <sup>9</sup>	United States	877	12-17	Cross	—	National Household Survey on Drug Abuse (selected those with SB)	- and healthy controls - Characteristics of adolescent SA - Patterns of MHSU and associated factors	- treatment → poorly compliant/not compliant - Females: ↑ psychiatric and MHS contacts - Outpatient (59%) > inpatient (22%) school-based services (19%) - White > Blacks > Hispanics - Inpatient: not living with both parents, ↓ self-perceived health, foreign nativity, and disruptive behaviors - General MHS: ↑ anxiety, SUD and disruptive behaviors - Outpatient: ↑ depression, female, moderately to highly family income, having Medicaid or Medicare - School-based services : ↑ extracurricular activities	—	- Self-report of adolescent impairment and duration of symptoms not taken into account for depression, anxiety and disruptive behavior - Unable to measure internal barriers to service perceived by adolescents
Husky et al. <sup>10</sup>	United States	10,123	13-18	Retrospective	12 months	NCS-A	- Prevalence of SB in the past year - Past-year utilization of MHT and receiving four or more visits from one provider - Factors related with receipt of care	- SB associated with ↑ MHS utilization - No MHT: 67.3% of SI, 54.4% of SP, and 56.9% of SA - For SI and SP: mood disorders predicted MHS - Poverty: no effect on access or treatment duration, but having ↓ socioeconomic had ↑ odds to be treated by general doctors - Boys were ↓ likely to receive MHT for SP	RF: mental disorders (SI, SP, SA), especially mood disorders (SI, SP, SA); SU, anxiety, disruptive behaviors (SI < SA), eating disorders (SA), female, younger age (SA)	- Self-report data - Questions regarding SP and SA were only directed to those with SI - Did not evaluate health insurance information - Did not evaluate family data - Data collected between 2001 and 2004
Nock et al. <sup>11</sup>	United States	10,148	13-17	Cross	—	NCS-A	Lifetime prevalence of SB among US adolescents and associations of temporally primary DSM-IV disorders	- Adolescents with SB received some form of treatment - MHS > school-based services > general medical treatment > human services > complementary alternative medicine > juvenile justice system - Adolescents with SB received ↑ treatment before onset of SB:	- RF: MDD, DYS, disruptive behavior (SP/SA) SU, CD (SA); girls (SI/SA); non-intact family (SI/SA) - PF	- Retrospective self-report - Did not evaluate schizophrenia and personality disorders - Possibility of false positives due to large populational study - No reports of treatments or adequacy of treatment

Study	Country	Sample size	Age range (years)	Study design	Follow-up time	Sample details	Outcomes	Compliance findings	Risk or protective factors for SI, SA, and CS	Limitations
Yen et al. <sup>12</sup>	United States	99	13-18	Longitudinal	6 months	Psychiatric inpatient adolescents hospitalized due to risk of suicide	Treatment utilization of adolescents at SR with onset of SB	MHS/school-based services - Prevalence of first treatment was ↓ during same year of SB and in the years after first SB  - Patients' use of treatment was influenced by compliance during hospitalization - ↑ Impaired adolescents: ↑ utilization of intensive care and ↓ utilization of therapy - Despite ↑ rate of outpatient treatment: RSA and need for rehospitalization remained ↑ - Adolescents with parents with severe psychiatric disorders needed ↓ intensive treatment and ↑ outpatient care	(unplanned SA): living with siblings, living with both biological parents (SI/SA) RFs: sex, non-intact family, RSA, psychiatric disorders	- Participants were primarily White and female - Studied a single psychiatric hospital - No data from treatment providers or length of index hospitalization
Zaborskis et al. <sup>13</sup>	Lithuania	3,572	11-15	Cross	—	Representative school sample, randomized by age and sex	- Prevalence of SI and SAs - Association with familial factors	Adolescents doing more activities with parents had ↑ MHT	RF: non-intact family	- Recall bias and social distractibility - Did not include family history of SB - Did not measure confounding variables (family conflict, psychotic-like experience, parent education, family conflict)
Borges et al. <sup>14</sup>	Mexico	3,005	12-17	Cross	—	Mexican Adolescent Mental Health Survey	- Lifetime and past year rates of MHSU among adolescents with SI, SP, suicide gesture, and SA - Temporal order of SB and consultation, determinants of MHT	- Health sector > school services > nonhealthcare - 25% of SA and 33% of SI began treatment after episode - Median time for beginning treatment after SB = 1 year - Those with more psychiatric disorders and females had ↓ likelihood of MHSU (SI)	—	- Examination of population of a metropolitan area - The study excluded youths institutionalized or living in the streets - Did not access all DSM diagnosis - Not yet valid version of scale used to measure SB

Study	Country	Sample size	Age range (years)	Study design	Follow-up time	Sample details	Outcomes	Compliance findings	Risk or protective factors for SI, SA, and CS	Limitations
Treatment compliance Wozencraft et al. <sup>15</sup>	United States	65	5-17	Cross	—	Children and adolescents with a history of sexual abuse, selected from a specialized university clinic	Relationship between depression and SI, age, abuse characteristic s, demographic characteristic s, and family compliance with treatment	Having a mother considered ↓ compliant to treatment was an RF for SI	RFs: having a mother who was classified as ↓ compliant, sexual abuse by a family member, being older and staying at the family home after sexual abuse	Data were collected from victims' children protective services caseworkers and not directly from mothers
Trautman et al. <sup>16</sup>	United States	115	10-18	Longitudinal	18 months	Clinic in the United States	Post-treatment compliance among teenagers with SA vs. teenagers with no SAs	- 77% of each group dropped out of treatment, but attempters dropped out sooner - Girls missed more appointments than boys - Adolescents who were attempters were not more likely to drop out of treatment than non-attempters	RFs: family conflict, argument with girlfriend, other peer problems, school problems	- Retrospective - Medical record keeping not uniform - Likely that not all missed appointments were recorded
Spirito et al. <sup>17</sup>	United States	62	13-17	Longitudinal	3 months	Regional trauma center (ED)	Adherence to treatment and new SAs in a group of adolescents 3 months after the first SA	- 3-month follow-up → 7% RSA - ↑ MHT compliance: RSA, alcohol use at the time of attempt, and length of time planning suicide - ↓ MHT compliance: physical fighting, health problem of a family member	RF for RSA – no variable found	- Small sample size in the noncompliant and repeated SA group - Small follow-up time
King et al. <sup>18</sup>	United States	100	Mean age 15.1 (SD + 1.4)	Longitudinal	6 months	Adolescents consecutively hospitalized	- Predictors of SB after hospitalized discharge - Association between initial treatment compliance and SB during follow-up	- SB during follow-up did not influence treatment compliance - Initial compliance was higher for individual psychotherapy > medication > guidance/family therapy	- RF(SA): mood disorders and chronicity of depressive symptoms; DYS; SI, family conflict, nonintact family - RF (RSA): hospitalized because of	- Loss of approximately one-third of initial sample (145) to follow-up - Use of telephone interviews may have unfavorable impact on reliable report of material related to SB

Study	Country	Sample size	Age range (years)	Study design	Follow-up time	Sample details	Outcomes	Compliance findings	Risk or protective factors for SI, SA, and CS	Limitations
Rotheram-Borus et al. <sup>19</sup>	United States	140	12-18	Longitudinal	6 weeks	Latina female adolescents who presented at ED after SA	Compare specialized program (staff training, videotapes, and on call family therapist) with standard treatment at ED	- Specialized treatment: attended - ↑ initial session, ↑ sessions overall and 3x ↑ likely to complete treatment - Mothers in both groups attended similar number of sessions, but mothers in standard group completed more family treatment - Single parents, SI, impulsive teenagers: ↑ compliance - Cohesive and adaptive families ↓ compliance	serious suicide intent	- Not randomly assigned - Different times of evaluation between groups (1991-1992 vs. 1992-1994) - Population of females only, predominantly Latina, from only one hospital in New York City
King et al. <sup>20</sup>	United States	66	13-17	Longitudinal	6 months	Adolescents hospitalized due to SB	Family predictors of post-hospitalization follow-through with treatment (medication, therapy, and family interventions)	- Compliance to medication and individual therapy were > guidance/family therapy - ↓ Socioeconomic status had ↑ medication and therapy - Family dysfunction was related to ↓ family therapy - ↓ Father relationship related to ↓ medication and family therapy - Maternal psychopathology related to ↓ individual therapy, family therapy, and medication	—	- Predominant Caucasian composition of sample - Loss of 20% of original sample - Did not control for length of hospitalization - Definition of compliance/follow-through was not standardized
Burgess et al. <sup>21</sup>	United Kingdom	25	12-18	Longitudinal	3 months	Adolescents who presented with overdoses to EDs in the Oxford district	Adolescent psychopathology and attitudes toward suicide after 3 months of follow-up following SA	- 72% received care prior to overdose - Outpatient group, 96% attended appointments - 72% of the adolescents found treatment useful - Only 30% of patients were given open access by means of an emergency telephone number if needed	RFs: sex (female), psychiatric disorders	- Restricted to Latina population, despite the main study objective - Did not consider such limitations (population bias)
Rotheram-Borus et al. <sup>22</sup>	United States	140	12-18	Longitudinal	18 months	Female adolescents who presented to EDs after SAs	Factors related to adolescent adherence to treatment after being in ED: specialized	- Adolescents with anxiety whose mothers reported ↑ psychopathology and perceived ↑ cohesive family relationships: ↓ treatment sessions - Adolescents receiving a specialized emergency room	RFs: age, sex (female), and ethnicity (Latino)	- Population of females only, predominantly Latina, from only one hospital in New York City - Different times of evaluation in different groups (1991-1992 vs. 1992-1994)

Study	Country	Sample size	Age range (years)	Study design	Follow-up time	Sample details	Outcomes	Compliance findings	Risk or protective factors for SI, SA, and CS	Limitations
							emergency room program vs. treatment as usual	program with disruptive behavior and who were from single-parent households: ↑ therapy sessions compared to those receiving treatment as usual		
Granboulan et al. <sup>23</sup>	France	163	13-18	Longitudinal	3 months	Adolescents hospitalized after SAs	- Compliance with post-discharge follow-up care - Study the factors correlated with compliance	Factors associated with compliance with MHT: number of therapy sessions while hospitalized, illicit SU, and planning SA	—	- Controversial definition of compliance: all scheduled follow-up appointments in the 3 months after discharge were considered - Short follow-up time
Spirito et al. <sup>24</sup>	United States	63	12-18	Longitudinal	3 months	Adolescents who had SA and were evaluated in EDs	Adherence to outpatient treatment for adolescents after SA	The CE group attended 8.4 sessions and the standard disposition planning group attended 5.8 sessions	RFs: race, age, psychiatric disorders	- Small groups - Experimental group possibly more likely to report barriers at follow-up - Did not assess perceptions of the participants toward clinicians
Burns et al. <sup>4</sup>	United States	85	13-18	Longitudinal	2 years	Adolescents who had SA	- MHS utilization for adolescents after SAs - Factors related to treatment compliance and relationship between compliance and SB	- Disruptive behavior → ↓ psychotherapy - MDD/anxiety → ↓ psychopharmacotherapy - Parental perceptions of treatment as helpful → ↑ MHS utilization - Compliance with treatment not generally preventive of future SB	RF: sex, family composition, and ethnic characteristics	- Recruitment and attrition rates - Sample of inpatient adolescents - Large proportion of White female adolescents with high socioeconomic status - Self-report data
Groholt & Ekeberg <sup>6</sup>	Norway	71	13-19	Longitudinal	9 years	Hospitalized patients admitted after SAs	Prevalence of psychiatric disorders and RSAs 8-10 years after SA	- ↑ Compliance shortly after SA - ↑ Psychiatric treatment later	RF: ↑ BDI scores at baseline	- No structured diagnostic interview at baseline - No coinformants at 18 months - Recall bias for previous treatment - Small sample size - 90% girls
Grupp-Phelan et al. <sup>25</sup>	United States	24	12-17	RCT	2 months	Adolescents presenting to	Patient compliance to	- 73% of TeenScreen-ED group scheduled MHS appointment	—	- Potential for selection bias reflected by large



Study	Country	Sample size	Age range (years)	Study design	Follow-up time	Sample details	Outcomes	Compliance findings	Risk or protective factors for SI, SA, and CS	Limitations
						pediatric ED, not currently receiving MHT, screening positive for suicidal risk behavior	outpatient treatment	and 64% attended at their appointment - 54% of standard care group made an appointment, but only 15% kept their appointment		nonparticipation rate, lower than expected positivity rate of suicidal risk behavior in overall sample and lower than expected patient and parental acceptance of procedure
Giraud et al. <sup>26</sup>	France	517	15 or younger	Longitudinal	1 years	Adolescents admitted to French EDs after SAs	- Epidemiological characteristics of adolescents with SAs - Psychological treatment after 1 year	- Only 35% were optimally observant of the care proposed, and 21% did not follow treatment - 15% were referred to hospital because of an RSA	RFs: female, family composition, academic problems, psychiatric disorders	- Short-term follow-up - No psychological or psychiatric evaluation following the SA (only indirect assessment)
Wharff et al. <sup>27</sup>	United States	139	13-18	RCT	1 month	Adolescents and their families presenting for psychiatric evaluation to EDs	Suicidality, family empowerment, satisfaction, and need for hospitalization between family-based crisis intervention and treatment as usual at ED:	- Family based crisis intervention: — ↑ levels of satisfaction with treatment - Family-based crisis intervention groups were ↓ likely to be hospitalized than those undergoing treatment as usual (OR 3.4)		- Lack of validated measure to assess suicidality - Treatment as usual and family-based crisis intervention had different times of assessment, which could have interfered with the results
Czyz et al. <sup>28</sup>	United States	34	13-17	Longitudinal	6 months	High-risk suicidal adolescents followed due to SA or SI	Feasibility and acceptability of a protocol for collecting daily suicide risk-related outcomes (SI/SA) among high-risk suicidal adolescents	Previous SA was the only factor — associated with survey adherence	—	- Sample was drawn from hospitalized patients, limiting the generalizability - Small sample size - Recall bias regarding SI - Adherence could have been sustained by monetary compensation
Normand <sup>29</sup>	France	173	15-21	Longitudinal	1 years	Adolescents and young	One-year follow-up	RFs for losing contact with patient during follow-up: school	RFs for RSA: female sex,	- Did not enable the measurement of the impact

Study	Country	Sample size	Age range (years)	Study design	Follow-up time	Sample details	Outcomes	Compliance findings	Risk or protective factors for SI, SA, and CS	Limitations
						adults admitted to the ED after SA	phone call program for SAs admitted to the ED	dropout and first- or second-generation migrants	hospitalization, first- or second-generation migrant	of the intervention on rates of SAs - Number of unreached adolescents (80 at the end of follow-up)
Yen et al. <sup>30</sup>	United States	20	12-18	Longitudinal/intervention	6 months	Adolescents hospitalized because of SR	Feasibility, acceptability and clinical outcomes of a program with technology-assisted reminders to practice skills in <i>in vivo</i> settings	- Responsiveness to text messages: participants responded 72.4% of the days - 6 months after discharge: one participant (5%) had SA and five (25%) had to be readmitted due to SR	—	- Sample was limited with regard to sex, racial, and ethnic diversity - Without control group

BDI = Beck Depression Inventory; CC = case-control; CD = conduct disorder; CE = compliance enhancement; CS = completed suicide; Cross = cross-sectional; DYS = dysthymia; ED = emergency department; MDD = major depression disorder; MHS = mental health service; MHSU = mental health service utilization; MHT = mental health treatment; N/A = not available; NCS-A = National Comorbidity Survey-Adolescent Supplement; OR = odds ratio; PF = protective factor; RCT = randomized controlled trial; RF = risk factor; RSA = repeated suicide attempt; SA = suicide attempt; SB = suicidal behavior; SD = standard deviation; SI = suicidal ideation; SR = suicide risk; SU = substance use; SUD = substance use disorder; TeenScreen-ED = (motivational interview, barrier reduction, outpatient appointment, reminders before scheduled appointment); YSPP = Youth Suicide Prevention Program.

**Table S2** Summary of extracted data: suicide ideation, compliance findings, and risk and protective factors for suicide

Study	Country	Sample size	Age range (years)	Study design	Follow-up time	Sample details	Objectives	Compliance findings	Risk or protective factors	Limitations
Wozencraft et al. <sup>15</sup>	United States	65	5-17	Cross	—	Children and Ado with history of SexAb, selected from a specialized university clinic	- Determine the relationship between Dep and SI, age, abuse characteristics, victim demographic characteristics and family compliance to treatment	- Having a mother considered less compliant to treatment was RF for SI	- RFs: having a mother who was classified as less compliant, having experienced SexAb by a family member, being older, and staying at the family home after investigation of SexAb	- Data were collected from victims' CPS caseworkers and not directly from mothers
Prinstein et al. <sup>31</sup>	United States	527	9th-12th grades	Cross	—	Students from schools in New England	- Examine models of risk for Ado - RB: FD, social acceptance, Dep - Compound/mitigate association between Ado and peer RB	—	- Ado SI and SB are related to SB by closest friends	- Self-report data
Randell et al. <sup>32</sup>	United States	341	14-19	Long	10 weeks	High-school students with SR	- Evaluate immediate postintervention effects of two brief suicide prevention protocols C-CARE, C-CARE+CAST and control	—	- ↑ RFs: EB, FC, poor school performance - PF: personal and social resources	- Need for reanalysis after 9 months - Did not address the following questions: For whom is the instrument effective? What predicts whether the instrument will be effective? - Poor contact with parents
Hooven et al. <sup>33</sup>	United States	1,458	9-17	Cross	—	CCS from MECA and Westchester studies	- Examine the association between adolescent SU and SB	—	- SB: ↑ DPs, female gender, older age, SU, PD	- Small sample of Ado with SU
Springer et al. <sup>1</sup>	El Salvador	930	12-19	Cross	—	Students from randomly selected schools	-Evaluate the association between perceived parental support and perceived social cohesion at school, with selected RB variables	-Parents' perceived need for MHT: (+) MHT Latinos: (-) MHT	- RFs: female gender, urban resident	- Did not evaluate confounding variables that influence health care other than school/parent support
Hallfors et al. <sup>34</sup>	United States	1,323	9th-11th grades	Long	1 week to 6 months	Students from 10 high schools	- Assess feasibility of a population-based approach to prevent adolescent suicide	—	- ↑ RFs→ students ↑ likelihood to engage in SU, (-) PS, to be (-) connected to school, ↑ Hop, ↑ suicide as acceptable solution to life's problems	- Researchers, rather than the schools themselves, collected and analyzed the data - Observational study: impossible to determine predictive validity
Carrizales <sup>35</sup>	United States	60	14-18	Cross	—	Incarcerated juveniles	- Determine the effects of loneliness on AB and VB towards staff and peers/SI/SA	—	- Loneliness was related to ↑ levels of SB -VB significantly correlated	- Self-report data - Small sample size

Study	Country	Sample size	Age range (years)	Study design	Follow-up time	Sample details	Objectives	Compliance findings	Risk or protective factors	Limitations
Freedenthal <sup>3</sup>	United States	2,226	12-17	Cross	—	Secondary data from the 2000 National Household Survey on Drug Abuse	- Assess the relationship of PFs for aggression, SI and SA  - Evaluate differences in rates and predictors of MHSU among Black, Hispanic and White youth with SI or SA in the past year, controlling for need for care and ability to secure services	- 29.07% reported use of MHS in the past 12 months - White had highest rates of MHSU, even controlling for ability to secure services, need for care and others potential confounders White>Black>Hispanic - White race, SA and psychiatric symptoms predicted MHSU	with ↑ SB - PF ** and SB had a negative correlation	- Unknown if correlates of service use predated service use - No information about severity or timing of SI/SA - Omission of school-based mental health programs - Self-report
Kataoka et al. <sup>2</sup>	United States	95	12.5 SD (2.98)	Long	5 months	LAUSD students from YSPF study	- Examine symptomatology and MHS utilization following students after contact with the YSPF	- Latino students — had lower rates of community MHT utilization than non-Latinos; school-based service use did not differ by student characteristics - Increased MHT compliance: + DS, parental perceived need for services, and being non-Latino		- Parent report data - Small sample - Quality and time of treatment not known - Not all barriers to treatment assessed
Ramchand et al. <sup>5</sup>	United States	948	15.99 (SD 1.36)	Long	12 months	- Adolescent Treatment Models Program (ATM)- 6 treatment sites (residential	- Prevalence of SI and SA in youth receiving treatment for SU abuse - Characteristics of patients with SI, SA	- Half outpatient; one third medication - Past treatment (1 year) was the	- RF (SI): Past year SI, past conduct disorder and depression, receiving MHSU previous to study, female, Black and Hispanic	- Do not have data on CS, - No detailed information on type of MHS and compliance to treatment and medication - Attrition bias (loss of Blacks

Study	Country	Sample size	Age range (years)	Study design	Follow-up time	Sample details	Objectives	Compliance findings	Risk or protective factors	Limitations
						treatments, outpatient programs and short term residential programs)	- Type of follow-up care in MHS of those presenting SI or SA	strongest predictor of continuing treatment at 3 months - Past SI/SA (1 year) predicted outpatient care in 3 months; while being older was a predictor of receiving less outpatient treatment - SI, Black and Hispanic received less drug prescription and were more likely to receive ED or overnight at hospital; - Being female also predicted hospital or ED care at 3 months	- RF (SA): Past SI, conduct disorders, previous MHSU	on 3 month assessment)
Lee et al. <sup>36</sup>	China	3,383	Secondary students	Cross	—	Randomly selected individuals in China	- Examine the association of SB and RB - Differences between SI/SA for PFs/RFs - Differences regarding education level and gender	—	- RFs for SI: sad/Hop, female gender, heavy smoking/early sex exp/physical fighting/binge drinking	- Not all RFs were evaluated - Did not evaluate school dropouts - CS - Failure to determine PFs
Litwiller <sup>37</sup>	United States	4,700	14-19	Cross	—	Ado from 7 areas in the United States	- Identify behavioral mediators and moderators of Ado victimization and SB	—	- Victimization predicted SB - SU, VB, and SexRB predicted SB	- Self-report data - Large population may have inflated statistical significance
O'Mara <sup>7</sup>	United States	96	12-17	Long	6 years	Previously hospitalized Ado	- Assess psychological outcomes, social functioning, and MHT - Relationship between history of SexAb and outcomes	- No differences in the utilization of MHT, SU or legal services between those with a history of SexAb and	- Predicted current SI: baseline Hop, current Dep	- Retention and sample size (43% of the initial sample) - Homogeneity of the sample - Recall bias

Study	Country	Sample size	Age range (years)	Study design	Follow-up time	Sample details	Objectives	Compliance findings	Risk or protective factors	Limitations
George <sup>38</sup>	United States	590	173	Cross	—	Teen school representative of NCP	- Determine RFs and PFs for SB - Stressors experienced could contribute to having SR	— those without	- PFs: self-esteem, acceptance, seeking support for instrumental reasons - RFs: denial, restraint coping, romantic relationships and negative life events	- Use of non-South African instruments with a South African population
Ng et al. <sup>39</sup>	Hong Kong	2,638	Middle-school students	Cross	—	Students from eight schools in Hong Kong	- Examine the relationship between SI, general MH status, and psychosocial difficulties	—	- RFs: female gender, CPs, lack of confidence, emotional symptoms - PFs: spirituality, tranquility, resilience, ↑ educational level	- Causal relationships among variables was not explored. - In-school volunteer sample - Self-report data
Gammelgård et al. <sup>40</sup>	Finland	163	11-18	Cross	—	Ado institutionalized from both psychiatric and correctional facilities	- Examine whether dimensions of psychopathology are associated with RV in youth - Impact of CFs, such as sex, age, PD and service level	—	—	- No direct contact with any Ado or parents - Small sample size or a very heterogeneous group
Borges et al. <sup>14</sup>	Mexico	3,005	12-17	Cross	—	Mexican Adolescent Mental Health Survey	- To report lifetime and past year rates of MHSU among Ado with SI, SP, suicide gesture and SA - Temporal order of SB and consultation, determinants of MHT	- Health sector > school services > nonhealthcare - 25% of SA and 33% of SI began treatment after episode - Median time for beginning treatment after SB = 1 year - Those with more Psychiatric disorders and females had ↓ likelihood of MHSU (SI)	—	- Examination of population of a metropolitan area - Study excluded youths institutionalized or living in the streets - Did not access all DSM diagnosis - Valid version of scale used to measure SB not available
Veale <sup>41</sup>	United States	1,537	9th-12th grades	Cross	—	All regular public school' students in Iowa	- Determine the percentage of those with SI, SAs, and Hop and those who needed treatment because of SAs	—	—	- Did not cross variables

Study	Country	Sample size	Age range (years)	Study design	Follow-up time	Sample details	Objectives	Compliance findings	Risk or protective factors	Limitations
Hooven et al. <sup>33</sup>	United States	615	14-19	Long	15 months	Students from 20 public high schools in seven Seattle area districts	<ul style="list-style-type: none"> <li>- Examine the efficacy of suicide prevention protocols, SRB, and related RFs of depression, anger, drug use, coping, and connection to family</li> </ul>	—	<ul style="list-style-type: none"> <li>- RFs: Hop, Anx, anger, SU, ideation, threats, plans, attempts, family conflict, parental mismanagement, and disengagement</li> <li>- PFs: FS, PSS</li> <li>- Personal control, problem-solving coping</li> </ul>	<ul style="list-style-type: none"> <li>- Self-report data</li> <li>- Did not address the question of which aspects of the intervention predict the successful outcomes and for whom these brief interventions work best</li> </ul>
Husky et al. <sup>10</sup>	United States	10,123	13-18	Retrospective	12 months	National Comorbidity Survey-Adolescent Supplement	<ul style="list-style-type: none"> <li>- Prevalence of SB in the past year</li> <li>- Past-year use of MHT and receipt of four or more visits from one provider</li> <li>- Identify factors related with receipt of care</li> </ul>	<ul style="list-style-type: none"> <li>- SB associated with ↑ MHSU</li> <li>- No MHT: 67.3% of SI, 54.4% of SP and 56.9% of SA</li> <li>- For SI and SP: mood disorders predicted MHS</li> <li>- Poverty: No effect on access or treatment duration; but having ↓ socioeconomic had ↑ odds to be treated by general doctors</li> <li>- Boys were ↓ likely to receive MHT for SP</li> </ul>	<ul style="list-style-type: none"> <li>- RF: Mental disorders (SI, SP, SA), specially mood disorders (SI, SP, SA); SU, anxiety, disruptive behaviors (SI&lt;SA), eating disorders (SA), female, younger age (SA)</li> </ul>	<ul style="list-style-type: none"> <li>- Self-report data</li> <li>- Questions regarding SP and SA were only directed to those who had SI</li> <li>- Did not evaluate health insurance information</li> <li>- Did not evaluate family data</li> <li>- Data collected between 2001 and 2004</li> </ul>
Nock et al. <sup>11</sup>	United States	10,148	13-17	Cross	—	- NCS-A	<ul style="list-style-type: none"> <li>- To estimate lifetime prevalence of SB among United States Ado and associations of retrospectively reported temporally primary DSM-IV disorders with subsequent onset of SB</li> </ul>	<ul style="list-style-type: none"> <li>- (+) Ado with SI, SP, SA received some form of treatment</li> <li>- MHS &gt; school-based services &gt; general medical treatment human services &gt; complementary alternative medicine &gt; juvenile justice system</li> </ul>	<ul style="list-style-type: none"> <li>- RF: MD, DYS(SP); MDD, DYS, DB, SU and CD (SA); Girls (SI/SA); living with 1 biological parent (SI) or no biological parent (SI/SA)</li> <li>- PF (unplanned SA): living with sibling, living with both biological parents (SI/SA)</li> </ul>	<ul style="list-style-type: none"> <li>- Retrospective self-report</li> <li>- Disorders known to be associated with suicide were not evaluated: schizophrenia, personality disorders,</li> <li>- Possibility of false positives due to large populational study</li> <li>- No reports of treatments or adequacy of treatment</li> </ul>

Study	Country	Sample size	Age range (years)	Study design	Follow-up time	Sample details	Objectives	Compliance findings	Risk or protective factors	Limitations
								- Most Ado with SB received treatment before onset of SB — often MHS/school-based services - Prevalence of first treatment was (-) during same year of SB and in the years after first SB		
Gallagher et al. <sup>42</sup>	United States	144	12-15	Long	9 and 18 months	Psychiatric inpatients	- Examine SAD symptoms as longitudinal predictors of SI	—	- RF: SAD diagnosis - PF: SS	- No conclusions about causal relationships among variables - Self-report data for many variables: loneliness, SS, and SI - Possible underestimates the level of DS
Alvarez <sup>43</sup>	United States	946	13-18	Cross	—	NCS – Ado Supplement	- Investigate relative effects of individual, family, and peer factors on SI, SP, and SAs	—	- ↑Dep, ↓ Frel - NPI: ↑ SB - Effect of Frel and NPI on SB mediated by Dep - NPI → direct effect on SB	- Lack of cultural information - Low reliability for peer relationships - Only English-speaking Latinos
Watton <sup>44</sup>	United States	1,427	12-17	Cross	—	2011 NSUDH Subsample	- Examine relationship between SD and SI	—	- RF: female gender - PF: PS ↓ likelihood of SI - Relationship between SD and SI mediated by PS	- Absence of control data, such as family history of suicide, sexual orientation, parental composition
Yen et al. <sup>12</sup>	United States	99	13-18	Long	6 months	Psychiatric inpatient Ado hospitalized due to risk of suicide	- Examine treatment utilization of Ado at SR	- Patients' compliance to treatment was influenced by compliance during inpatient care - (+) impaired Ado: (+) utilization of intensive care and (-) utilization of therapy - Despite (+) rate of	- RFs: gender, NIF, SA during follow-up, PD	- Participants were primarily white and female - Studied a single psychiatric hospital - No data from treatment providers or length of index hospitalization



Study	Country	Sample size	Age range (years)	Study design	Follow-up time	Sample details	Objectives	Compliance findings	Risk or protective factors	Limitations
								outpatient treatment engagement: reattempts and need for rehospitalization remained high - Ado with parents with severe PD (-) intensive treatment and (+) outpatient care		
Peralta <sup>45,46</sup>	United States and Puerto Rico	1,121	10-13	Long	4-6 years	Children from Bronx and San Juan and Caguas	- Investigate incidence, persistence, and transition of SI in early adolescence	—	- Mod disorders associated with PI - AD and DB assoc. with AI MS and AD, predicted SI in Ado without SB	- Nonrepresentative sample - Low rates of SI and SA - Young participants
Peralta <sup>45,46</sup>	United States	506	12-21	Long	4-6 years	Ado from high schools in NYC	- Examine what predicts transition from SI to SA	—	- Thinking for > 1 hour about suicide at baseline - SA at follow-up: +Dep, SU, AD, DS/ + SI and SA history at baseline - Transition from SI to SA at follow-up: + PD/ + wanting to die	- Recall bias - Assessment of follow-up by telephone - Did not inquire about SP
Mueller et al. <sup>47</sup>	United States	75,344/5,541	High-school students	Cross	—	LGBT students; pooled data from the YRBS (2009 and 2011)	- Assess race/ethnicity, gender, and sexual orientation variation in BB and SI	—	- BB is RF for all youth: ↑ odds of SI - LGBT individuals have ↑ SI compared to that of their same-gender, white, heterosexual peers	- Few districts investigated gender and sexual orientation - Differences in RFs/PFs evaluated by the YRBS in different regions
Lee and Choi <sup>48</sup>	Korea	72,435	13-18	Cross	—	Ado from the 2013 OSYHB in Korea	- Identify factors associated with adolescent SI	—	- Sociodemographic conditions, psychological factors, SU, contact with parents	- Self-report data
Burke et al. <sup>49</sup>	United States	324	12-13	Long	2 years	Students from Philadelphia area public and private middle schools	- Determine the relative impact of CV and PFs on SI among young Ado over a 2-y interval (transition to mid-adolescence)	—	- RFs: deficits in problem-solving; the number of negative adjectives indicated as self-referent on the SRET significant was a risk factor for prospective SI	- Lack of empirical evidence for this model - Short follow-up period

Study	Country	Sample size	Age range (years)	Study design	Follow-up time	Sample details	Objectives	Compliance findings	Risk or protective factors	Limitations
Mirkovic et al. <sup>50</sup>	France	167	13-17	Cross	—	Ado hospitalized after SA in 5 hospitals in France	- Examine how PCS and non-PCS relate to ↑ and ↓ dep scores and to presence or absence of SI - Sex, age and SLES controlled	—	- PFs: distraction and problem-solving  - Potential PF: productive coping - Focusing on positive → predictor of dep and SI	- Self-report data - Berkson factor - Influence of recent SLES
Breton et al. <sup>51</sup>	Canada	283+119	13-17	Cross	—	283 community Ado + 119 Dep clinic in Montreal	- Examine whether PFs for PADS moderate the effect of stressful events on depression and SB in community and clinical settings - Influence of sex	—	- RF: signs of Dep in the community - Dep and keeping to self in a clinical sample of boys with SI - Hop in girls in a community sample - PF: Respect for others and the environment (SS)	- Self-report - Dep as a continuous variable, noncategorical
Knafo et al. <sup>52</sup>	France	167	13-17	Cross	—	Ado inpatients after SAs	- Compare coping strategies in Ado with and without BPD. - Association of coping and SI and SAs in Ado with BPD	—	- RFs: coping (focusing on solutions) with SI in BPD Ado - (-) association between ignoring problem and SI in BPD Ado - BPD for SI, SP, and SA	- Predominantly female sample
Gorzig <sup>53</sup>	Europe	19,406	11-16	Cross	—	Internet-using children in Europe	- Examine association of CBB with adolescent VWCRSH and VWCRS - Relation with Eps	—	- Association of CBV and CBBV with VWCRS - Association of CBB with VWCRSH	- Self-selection
Miller et al. <sup>54</sup>	United States	682	7-18	Long	3 years	Local school districts	- Examine how EM predicts SI over time in MWPAM - CPAM included DSS at each time point - Gender moderated the associations among EM, DSS, and SI	—	- RFs: EM at concurrent time points and at T3 - EM T1 to T2 ↑ risk for SI at T3, even after controlling for previous SI and age	- Did not evaluate sexual or physical abuse and neglect - Retrospective EM measure - Self-report data - High level of missing data
Zhang et al. <sup>55</sup>	China	3,600	12-18	Long	1 year	Hong Kong schools	- Explore 2 potentially different pathways from NE to SI and to SA.	—	- RFs: female gender, NE, NSSI to SI	- Only Chinese Ado in Hong Kong - One item to assess SI - Mean substitution to deal with missing data could have led to bias - Only assessed NSSI

Study	Country	Sample size	Age range (years)	Study design	Follow-up time	Sample details	Objectives	Compliance findings	Risk or protective factors	Limitations
Zalsman et al. <sup>56</sup>	Israel	957	14-17	Cross	—	Community sample	- Determine rates of SI and SB - Rate of agreement between Ado and their mothers	—	- RFs: female gender, PD, especially Dep and PTSD	- Low response rate - Instruments did not allow differentiation between S and NSSI behaviors
Zaborskis et al. <sup>13</sup>	Lithuania	3,572	11-15	Cross	—	Schools – representative by age and gender	- Determine the prevalence of SI and SA - Association with FamF	- Ado with ↑ activities with parents had ↑MHT	- RFs: NIF, low parental emotional support, female gender - PF: time spent with parents	- Recall bias and social distractibility - Did not include family history of SB - Unmeasured confounding variables (PE, FC, PLE)
Hollinger <sup>57</sup>	United States	208	7th grade	Archival study	—	NY suburban middle schools	- Investigate perceptions, attitudes and stigma towards suicide	—	—	- Non-standardized data - Instrument perceptions of MS populations
Qiao and Bell <sup>58</sup>	United States	2,296	9th-12th grades	Cross	Past year	Students from the YRBS (IA) study in the United States	- Examine IAs' SBs and RFs - Explore potential causes of disparities	—	- RFs for SI: being female, being threatened at school, being forced to have sex, feeling sad	- Heterogeneous sample (American Indians, Alaskan Natives, Native Hawaiians, and Pacific Islanders, living on and off reservations) - Only RFs in the dataset
Watters <sup>59</sup>	United States	200	13-19	Cross	—	Convenience sample of AAALs	- Examine relationship between adult SS and attitudes towards HSS SB and Hop	—	- Lack of family and SS associated with social isolation and ↑ SB among HSS youths	- Cross design
Glenn et al. <sup>60</sup>	United States	280	12-19	Cross	—	106 outpatient patients, identified with SB; 174 inpatient patients, admitted with SR	- Evaluate age of onset and time lag between onset of SI, NSSI, and SAs	—	- RFs: NSSI, earlier age of symptoms - Trajectories: thoughts of NSSI and SI began at the same age> 4-6 months later: NSSI> 3-6 months later: SP; 8-15 months later: SA	- Ado predominantly female and Caucasian with high socioeconomic status: limited generalizability - Report of age of onset was retrospective and susceptible to biases - Focused on descriptive approach to SB rather than factors predicting the transition between categories
Koenig et al. <sup>61</sup>	Germany	506	13-17	Long	2 years	Data from German cohort of SEYLE study	- Evaluate whether new onset of D-SIB, its cessation or maintenance is associated with SI and SAs	—	- RF for SI and SA: late onset of D-SIB - RF for D-SIB: DS - CP predicted cessation of D-SIB	- Study based on self-report data - Measure of D-SIB did not differentiate D-SIB with or without an intent to die

Study	Country	Sample size	Age range (years)	Study design	Follow-up time	Sample details	Objectives	Compliance findings	Risk or protective factors	Limitations
Veras et al. <sup>62</sup>	Brazil	1,347	10-17	Cross	—	Ado from various public schools in Recife, Brazil	- Determine prevalence of SR among Brazilian Ado - Association between DS and the RS	—	- ↑ SR: DS, siblings, female gender, ↑age	- Large drop in participants (initial sample of 1,202 students) - Disproportionate representation of female students (962%)  - Interviews could be changed by participants, which could have led to omission of details
Benatov et al. <sup>63</sup>	USA	3,554	13-20	Cross	—	Arab and Jewish vocational education and training high-school students in Israel	- Association between gender, ethnicity, and SI and SAs among Arab and Jewish high-school students	—	- RFs: female gender, Arab ethnicity, lower economic status	- All measures were based on self-report data - Arab society is composed of diverse subgroups, which were not evaluated separately
Orpinas et al. <sup>64</sup>	United States	588	6th-12th grades	Long	7 years	Subsample from the "Health teens longitudinal students" with a sample of students who reported having dated at least once in the past	- Investigate relationship of low or increasing PPDV with the following: - SI and SA - WPC and threats with a weapon - SU, particularly alcohol and marijuana	—	- ↑ PPDV group: RF for suicide	- Different time frames for the questions, which limited the accuracy of the conclusions - Lack of information about which weapons students carried - Self-reports
Ballard et al. <sup>65</sup>	United States	970	8-18	Long (RCR)	6 months	Ado that underwent evaluations in pediatric EDs	- Examine nursing compliance with administration of a suicide risk protocol - Degree to which patient characteristics impact nursing compliance - Relationship between ASQ and repeated visits to EDs for suicide-related reasons	—	—	- Use of a single retrospective review of medical record data - For analyses of repeat ED visits, patients may have visited other EDs - Presence of parents during the screening - The ASQ was used only with patients with psychiatric concerns, not with the general pediatric population
Holden <sup>66</sup>	England	680	13- 18	RCR	Average of 2 years	Clinical records of children receiving MHSs from 2008-2013 in South London and Maudsley	- Analyze whether BB was a predictor for suicidality in a sample of Ado with ASD after correcting for variables, such as Dep and Anx	—	- RF: BB in patients with ASD - Possible interaction between functioning, BB and suicidality	- Lack of informed consent - Limited to clinical records - Limitations of the use of natural language processing and TextHunter to identify all cases and time relations

Study	Country	Sample size	Age range (years)	Study design	Follow-up time	Sample details	Objectives	Compliance findings	Risk or protective factors	Limitations
Wharff et al. <sup>27</sup>	United States	139	13-18	RCT	1 month	Ado and their families presenting for psychiatric evaluation at EDs	- Compare FBCI to TAU regarding efficacy of the intervention in terms of suicidality, family empowerment and satisfaction, and need for hospitalization	—	- FBCI: protects against the need for hospitalization (OR 3.4)	- Lack of validated measure to assess suicidality - TAU and the FBCI had different times of access, which may have interfered with the results
Tamás <sup>67</sup>	Hungary	407	7-14	Cross	—	Sample from a previous study of children and Ado with depression, recruited from 23 psychiatric clinics in Hungary	- Evaluate relationship of different forms of SB with temperament and emotion regulation	—	- RFs: high maladaptive and low adaptive ER to dysphoria increased the odds of SB - RF: feelings of worthlessness were associated with SAs - PF: adaptive ER protects from SR in depressive children and Ado, unless they have extreme temperaments	- Study subjects were selected from genetic study of depressed children and Ado - ISCA-D was not designed for assessment of SB as a primary goal - All patients had diagnoses of MD, which may have complicated differentiation of SB vs. MD - Measures of temperament and ER showed low reliability
Yen et al. <sup>30</sup>	United States	20	12-18	Long/Intervention	6 months	Ado recruited from inpatient units hospitalized because of SR	- Determine feasibility, acceptability, and clinical outcomes of positive affect skills-based program for acute settings, with technology-assisted reminders to practice skills in vivo settings (mindfulness meditation, gratitude, and savoring)	- Responsiveness to text messages: participants responded 72.4% of days - Text messaging was rated as more helpful than weekly calls by Ado and parents - Psychoeducation was the most highly rated content - Mindfulness meditation was the most selected skill during the remote phase - 6 months after discharge: one	- The sample was limited with regard to gender racial and ethnic diversity - Did not have a control group	

Study	Country	Sample size	Age range (years)	Study design	Follow-up time	Sample details	Objectives	Compliance findings	Risk or protective factors	Limitations
Czyz et al. <sup>28</sup>	United States	34	13-17	Long	6 months	High-risk suicidal Ado followed up after psychiatric hospitalization due to SA or SI	- Address feasibility and acceptability of an ecological assessment protocol for collecting daily suicide risk-related outcomes (SI/SA) among high-risk suicidal Ado	participant (5%) had SA, and five (25%) required readmission due to SR  - Ado without previous SA were less likely to complete daily surveys - At 1-month follow-up, 45.2% of teens reported maintenance of SI - SI with a SP was indicated on 1% of the days and corresponded to 3.1% of the cases of SI - 2 participants reported SAs	- Previous SA was the only factor associated with survey adherence	- Sample drawn from inpatient unit, limiting the generalizability - Small sample size - Recall bias regarding suicidal thoughts - Adherence might have been sustained by monetary compensation
Tavakoli et al. <sup>68</sup>	Canada	12 cases and 12 controls	13-17	Cross; CC	—	Ado inpatients admitted for acute risk of suicide (not using benzodiazepines) and healthy controls	- Examine whether Ado with SB are more likely to show a P3a, reflecting attention capture and processing	—	- SR patients showed more distractibility to sounds, which can be a promising marker for those at SR	- Small sample size - Depression could have been responsible for many study findings related to changes in P3a - Use of medication in patient group - Behavior measure not provided; behavior shown by deterioration of performance on a cognitive task in which the patient was actively engaged
Sarkisian et al. <sup>69</sup>	United States	134	average 14.6	Cross	—	Identical and fraternal twins participating in one of two longitudinal twin studies, of whom 46 had SI	- Determine whether brooding, inattention and impulsivity are associated with risk for concurrent SI, even after controlling for MD	—	- RF: only inattention predicted significantly increased risk of SI (OR 2.4), despite MD	- Record bias – Ado had to remember events prior to the interview - Mean age was mid-adolescence - Nature of inattention should be better evaluated

Study	Country	Sample size	Age range (years)	Study design	Follow-up time	Sample details	Objectives	Compliance findings	Risk or protective factors	Limitations
Lee et al. <sup>70</sup>	Korea	1,209,574	7th and 10th grades	Cross	—	(probands); 46 were cotwins, and 46 were matched controls  Data from 2013 nationwide school-based MH screening from students from 7th grade and 10th grade	- Investigate the risk for SI in Ado by gender and age	—	- RFs for SI were the following: mood (depressive), distractibility: 7th grade students, BP: more in girls than in boys, violence, bullying	- No data from out-of-school youth - Lack of sociodemographic characteristics - SI was assessed using a single item - Limits of self-report data

2013 OSYHB = Online Survey of Youth Health Behavior; AAALs = African American adolescent lesbians; AB = aggressive behavior; AD = anxiety disorder; Ado = adolescents; Anx = anxiety; ASD = autism spectrum disorder; ASQ = Ask Suicide Screening Questions; BB = being bullied; BDI = Beck Depression Inventory; C-CARE = Counselors CARE (1.5-2-hour assessment interview followed by a brief counseling protocol and facilitation of social support from school personnel and a parent); CAST = C-CARE plus a 12-session, small-group skills-training program; CBB = cyberbullying; CBBV = cyberbullying victims; CBV = cyber victims; CC = case-control; CCA = conventional content analysis; CCS = combined community sample; CF = confounding factor; CP = conduct problem; CPAM = competing path analysis; CPS = children protective service; CS = completed suicide; Cross = cross-sectional/transversal; CV = cognitive vulnerability; DAWBA = Development and Well-Being Assessment Inventory; DB = disrupted behavior; Dep = depression; DPs = divorced parents; DS = depressive symptoms; D-SIB = deliberate self-injury behavior; DSS = depressive symptom severity; ED = emergency department; ER = emotional regulation; FBCI = family-based crisis intervention; FC = family conflict; FD = family dysfunction; Frel = family relationship; FS = family support; Hop = hopelessness; HSS = homosexuality; IAs = indigenous adolescents; LAUSD = Los Angeles Unified School District; LGBT = lesbian, gay, bisexual and transgender; Long = longitudinal publications;; MH = mental health; MHS = mental health service; MHT = mental health treatment; MS = minority status; MWPAM = multiwave path analysis model; NCS = national comorbidity survey; NCS-A = National Comorbidity Survey Adolescent Supplement; NE = negative emotion; NIF = nonintact family; NCP = Northern Cape Province; NPI = negative peer influence; NSUDH = National Survey on Drug Use and Health; NYC = New York City; P3a = event-related component associated with capturing attention; PCS = productive coping skills; PADS = Protection for Adolescent Depression Study (PADS); PD = psychiatric disorders; PE = parent education; PF = protective factor; PF\*\* (Carrizale) = involvement, social support, strong attachment and bonds, positive attitude – intervention/authority, commitment to school, and resilient personality traits; PLE = psychotic-like experience; PPDV = perpetration of physical dating violence; PS = parental support; PSS = parental social support; PTSD = posttraumatic stress disorder; Quali = qualitative studies; RCR = retrospective chart review; RB = risk behavior; RF = risk factor; RV = risk of violence; SA = suicidal attempt; SAD = social anxiety disorder; SB = suicidal behavior; SD = school disengagement; SexAb = sexual abuse; SexRB = sexual risk behavior; SI = suicidal ideation; SP = suicide plan; SR = suicide risk; SRB = suicidal risk behavior; SRET = Self-Referent Encoding Task; SS = social support; SU = substance use; TAU = treatment as usual; T1 = baseline<sup>23</sup>; T2 = 18 months<sup>23</sup>; T3 = 36 months<sup>23</sup>; VB = violent behavior; VWCRS = viewing web content related to suicide; VWCRSH = viewing web content related to self-harm; w = week(s); WPC = weapon carrying; YRBS = Youth Risk Behavior Survey; YSPP = LAUSD Youth Suicide Prevention Program.

**Table S3** Summary of extracted data: suicide attempt, compliance and risk and protective factors for suicide

Study	Country	Sample size	Age range (years)	Study design	Follow-up time	Sample details	Objectives	Compliance findings	Risk or protective factors	Limitations
Queralt <sup>71</sup>	United States	14	13-19	CC	—	Small random sample of Latinos who attempted suicide; control group of 14 Latino NAs	- Identify possible RFs for SB among Latino adolescents	—	- RFs: FamF (Latino), PD, migration and acculturation problems	- Small sample size - High attrition rate - Information obtained by school counselor
Trautman et al. <sup>16</sup>	United States	115	10-18	Long	18 months	Clinic in the USA	- Evaluate posttreatment compliance among teenagers who attempted suicide compared to teenagers without SAs	- 77% of each group dropped out of treatment, but attempters dropped out sooner - Girls missed more appointments than boys - Adolescent attempters were not more likely to drop out of treatment than non-attempters	- RFs: argument with parents, argument with girl or boyfriend, other peer problems, school problems	- Retrospective - Medical record keeping not uniform - Likely that not all appointments missed were recorded
Spirito et al. <sup>17</sup>	United States	62	13-17	Long	3 months	Regional trauma center (ED)	- Assess adherence to treatment and new SAs in a group of adolescents 3 months after first SA	- 3 month follow-up → 7% repeated SAs - 16.1% never followed through on referral; 20.9% attended only two appointments, and 48.4% were still in treatment at follow-up (most on a bimonthly or monthly basis) - Increased MHT compliance: prior SA, alcohol use at the time of attempt, and length of time plaining suicide - Decreased MHT compliance: physical fighting, health problem in family member	- RF for repeated SA — no variable found	- Small sample size in the noncompliant and repeated SA group - Short follow-up time
Rotheram-Borus et al. <sup>19</sup>	United States	140	12-18	Long	6 weeks	Latina female adolescents who presented at ED after SA	Compare specialized program (staff training, videotapes and on call family's therapist); with	- Specialized treatment: attended ↑ initial session, ↑ sessions overall and 3X ↑ likely to complete treatment - Mothers in both groups		- Not randomly assigned - Different evaluation times between groups (1991-92 X 1992-94)



Study	Country	Sample size	Age range (years)	Study design	Follow-up time	Sample details	Objectives	Compliance findings	Risk or protective factors	Limitations
							standard treatment at ED, over outpatient adherence to treatment	attended similar sessions, but mothers in the standard group completed more family treatment. - Single parents, SI, impulsive teenagers: ↑ compliance - Cohesive and adaptive families ↓ compliance		- Population of females only, predominantly Latina, from only one hospital in New York City
Burgess et al. <sup>21</sup>	UK	25	12-18	Long	3 months	Adolescents with overdoses presenting to EDs in Oxford district	- Evaluate adolescents' psychopathology and attitudes towards suicide after 3 months of follow-up after SA	- 72% had received care prior to overdose - In outpatient group, 96% attended appointments, and 72% of adolescents found treatment useful - Only 30% of patients were given open access by means of emergency telephone number if needed	- RFs: gender (female), PD	- Restricted to Latina population, despite the main objective of the study - Did not account for population bias
King et al. <sup>20</sup>	United States	66	13-17	Long	6 months	Adolescents hospitalized due to SB	Identify family predictors of posthospitalization follow-through with treatment (medication, therapy and family interventions)	- Compliance to medication and individual therapy > guidance/family therapy. - ↓ socioeconomic status had ↑ medication and therapy - Family dysfunction related to ↓ family therapy - ↓ Father relationship related to ↓ medication and family therapy - Maternal psychopathology related to ↓ individual therapy, family therapy and medication		- Predominantly Caucasian sample - Loss of 20% of original sample - Did not control for length of hospitalization - Determination of compliance/follow-through not standardized
Rotheram-Borus et al. <sup>22</sup>	United States	140	12-18	Long	18 months	Female adolescents who presented to EDs after SAs	- Evaluate factors found to predict adolescent adherence to treatment after	- Adolescents with Anx whose mothers reported ↑ psychopathology and perceived (+) cohesive family relationships: (-)	- RFs: age, gender (female) and race (Latino)	- Population with females only, predominantly Latina, from only one hospital in NYC

Study	Country	Sample size	Age range (years)	Study design	Follow-up time	Sample details	Objectives	Compliance findings	Risk or protective factors	Limitations
							being in EDs- (SpERP x TAU)	treatment sessions - Adolescents receiving a SpERP with a disruptive behavior disorder and who were from single-parent households: (+) therapy sessions compared to those receiving StERC		
Prinstein et al. <sup>31</sup>	United States	527	?	Cross	—	Students from 9th to 12th grade from schools in New England	- Examine models of risk for adolescents RB (FD, social acceptance, MD) that could compound/mitigate association between adolescents' and peers' RB	—	- RFs: NPI/friends engaged in SB, low FS, social acceptance reported, and MD	- Measurement of health-risk behavior was restricted to self-reported, single-item indicators - Data from a single time point, thereby limiting conclusions regarding directionality between peers' behavior, psychosocial moderators, and adolescents' health-risk behavior
Granboulan et al. <sup>23</sup>	France	163	13-18	Long	3 months	Adolescents HP after SAs	- Measure compliance with PDF care - Study factors correlated with compliance	- Factors associated with compliance to MHT: number of therapy sessions while HP, illicit SU, planning SA	—	- Controversial definition of compliance: all scheduled follow-up appointments in the 3 months after discharge were considered - Short follow-up time
Spirito et al. <sup>24</sup>	United States	63	12-18	Long	3 months	Adolescents who attempted suicide and were evaluated in EDs	- Determine whether a problem-solving intervention would improve adherence to outpatient treatment for adolescents after	- CE group attended 8.4 sessions, and SDP group attended 5.8 sessions	- RFs: race, age, mental disorders	- Small groups - Experimental group was possibly more likely to report barriers at follow-up - Did not assess perceptions of adolescent and family towards

Study	Country	Sample size	Age range (years)	Study design	Follow-up time	Sample details	Objectives	Compliance findings	Risk or protective factors	Limitations
Springer et al. <sup>1</sup>	El Salvador	930	12-19	Cross	—	Students from randomly selected schools	- Evaluate association between perceived parental support and perceived social cohesion at school, with selected RB variables SA	- Increased MHT: parents' perceived need for MHT - Decreased MHT: Latinos - Parents' perceived need for services was not associated with students' prior SAs	- RFs: female gender, urban resident	- Did not evaluate aspects that influenced health care other than school and parent support clinician
Kataoka et al. <sup>2</sup>	United States	95	12.5 SD (2.98)	Long	5 months	LAUSD students from the YSPP study	- Examine symptomatology and MHS use among randomly assessed students after contact with the YSPP	- After contact with YSPP: two thirds received school support or MHSs - Increased MHS use: DS, parental perceived need for services, and being non-Latino - Decreased MHS use: being Latino - Increased school-based service use: history of a SA	—	- Parent report data - Small sample - Quality and time of treatment not known - Not all barriers for treatment assessed
Freedenthal <sup>3</sup>	United States	2,226	12-17	Cross	—	Secondary data from 2000 National Household Survey on Drug Abuse. Data only	- Evaluate differences in rates and predictors of MHSU among Black, Hispanic and White youth with SI or SA in the past year, controlling for need for care and ability to secure services	- 29.07% reported use of MHS in the past 12 months - White had highest rates of MHSU, even controlling for ability to secure services, need for care and other potential confounders White>Black>Hispanic - White race, SA and psychiatric symptoms predicted MHSU	—	- Unknown if correlates of service use predated service use - No information about severity or timing of SI/SA - Omission of school-based mental health programs - Self-report
Burns et al. <sup>4</sup>	United States	85	13-18	Long	2 years	Adolescents who attempted suicide	- Describe MHS utilization for adolescents after SAs - Explore factors related to treatment compliance and	- Adolescents with a DB disorder → less compliant with psychotherapy - Affective/Anx disorder → less compliant with psychopharmacotherapy - Parental perceptions of	- RFs: sex, family composition and ethnic characteristics	- Recruitment and attrition rates - Sample of inpatient adolescents - Large proportion of white female adolescents with

Study	Country	Sample size	Age range (years)	Study design	Follow-up time	Sample details	Objectives	Compliance findings	Risk or protective factors	Limitations
							determine the relationship between compliance and suicidality	treatment as helpful → predictive of greater compliance - Compliance with treatment was not generally preventive of future suicidality		high socioeconomic status - Self-report data
Ramchand et al. <sup>5</sup>	United States	948	15.99 (SD 1.36)	Long	12 months	- Adolescent Treatment Models Program (ATM) - six treatment sites (residential treatments, outpatient programs and short term residential programs)	- Prevalence of SI and SA in youth receiving treatment for SU abuse - Characteristics of patients with SI, SA - Type of follow-up care in MHS of those with SI or SA	- Half outpatient; one third medication - Past treatment (1 year) was the strongest predictor of continuing treatment at 3 months - Past SI/SA (1 year) predicted outpatient care in 3 months; while being older, was a predictor of receiving less outpatient treatment - SI, Black and Hispanic received less drug prescription and were more likely to receive ED or overnight at hospital; - Being female also predicted hospital or ED care at 3 months	- RF (SI): Past year SI, past conduct disorder and depression, receiving MHSU previous to study, female, Black and Hispanic - RF (SA): Past SI, conduct disorders, previous use of MHS	- Do not have data on CS - No detailed information on the type of MHS and compliance to treatment and medication - Attrition bias (loss of Blacks on 3 month assessment)
Lee et al. <sup>36</sup>	China	3,383	Secondary students	Cross	—	Randomly selected secondary students in China	- Identify PFs/RFs for SI/SAs - PFs/RFs associated with SI/SAs among Chinese adolescents	—	- RFs for SA: SI, female gender, feeling sad/hop, binge drinking/SU	- Not all RFs evaluated - Did not evaluate school drop-out - Failure to identify PFs
Borges et al. <sup>14</sup>	Mexico	3,005	12-17	Cross	—	Mexican Adolescent Mental Health Survey	- To report lifetime and past year rates of MHSU among Adolescents with SI, SP, suicide gesture and SA - Temporal order of SB and consultation,	- Health sector > school services > nonhealthcare - 25% of SA and 33% of SI began treatment after episode - Median time for beginning treatment after SB = 1 year - Those with more psychiatric disorders	—	- Examination of population of a metropolitan area; excluded youths institutionalized or living in the streets - Did not access all DSM diagnosis - Valid version of scale used to

Study	Country	Sample size	Age range (years)	Study design	Follow-up time	Sample details	Objectives	Compliance findings	Risk or protective factors	Limitations
Husky et al. <sup>10</sup>	United States	10,123	13-18	Retrospective	12 months	National Comorbidity Survey-Adolescent Supplement	<ul style="list-style-type: none"> <li>- Prevalence of SB in the past year</li> <li>- Past-year use of MHT and receipt of four or more visits from one provider</li> <li>- Identify factors related with receipt of care</li> </ul>	<ul style="list-style-type: none"> <li>- SB associated with ↑ MHS use</li> <li>- No MHT: 67.3% of SI, 54.4% of SP and 56.9% of SA</li> <li>- For SI and SP: mood disorders predicted MHS.</li> <li>- Poverty: No effect on access or treatment duration; but having ↓ socioeconomic had ↑ odds to be treated by general doctors</li> <li>- Boys were ↓ likely to receive MHT for SP</li> </ul>	<ul style="list-style-type: none"> <li>- RF: Mental disorders (SI, SP, SA), specially mood disorders (SI, SP, SA); SU, anxiety, disruptive behaviors (SI&lt;, SA), eating disorders (SA), female, younger age (SA)</li> </ul>	<ul style="list-style-type: none"> <li>- measure SB not available</li> <li>- Self-report data</li> <li>- Questions regarding SP and SA were only directed to those who had SI</li> <li>- Did not evaluate health insurance information</li> <li>- Did not evaluate family data</li> <li>- Data collected between 2001 and 2004</li> </ul>
Nock et al. <sup>11</sup>	United States	10,148	13-17	Cross	—	- NCS-A	<ul style="list-style-type: none"> <li>- To estimate lifetime prevalence of SB among US Ado and associations of retrospectively reported temporally primary DSM-IV disorders with the subsequent onset of SB</li> </ul>	<ul style="list-style-type: none"> <li>- (+) Ado with SI, SP, SA received some form of treatment</li> <li>- MHS &gt; school-based services &gt; general medical treatment human services &gt; complementary alternative medicine &gt; juvenile justice system</li> <li>- Most Ado with SB received treatment before onset of SB—often MHS/school-based services</li> <li>- Prevalence of first treatment was (-) during same year of SB and in the years after first SB</li> </ul>	<ul style="list-style-type: none"> <li>RF: MD, DYS (SP); MD, DYS, ODD IED, Substance Abuse and CD (SA); Girls (SI/SA); living with one biological parent (SI) or no biological parent (SI/SA)</li> <li>PF: (unplanned SA): living with sibling living with both biological parents (SI/SA)</li> </ul>	<ul style="list-style-type: none"> <li>- Retrospective self-report</li> <li>- Disorders known to be associated with suicide were not evaluated: Schizophrenia, personality disorders,</li> <li>- Possibility of false positives due to large populational study</li> <li>- No reports of treatments or adequacy of treatment</li> </ul>
Groholt and Ekeberg <sup>6</sup>	Norway	71	13-19	Long	9 years	General hospital patients admitted after SAs	<ul style="list-style-type: none"> <li>- Determine the prevalence of PD and RSAs 8-10 y after SA</li> </ul>	<ul style="list-style-type: none"> <li>- Lower compliance shortly after SA</li> <li>- Frequent psychiatric treatment later</li> </ul>	<ul style="list-style-type: none"> <li>- RF: ↑scores on the BDI at T1</li> </ul>	<ul style="list-style-type: none"> <li>- No SDIs at T1</li> <li>- No coinformants at T2</li> <li>- Recall bias for previous treatment</li> <li>- Small sample size</li> <li>- 90% girls</li> </ul>

Study	Country	Sample size	Age range (years)	Study design	Follow-up time	Sample details	Objectives	Compliance findings	Risk or protective factors	Limitations
Litwiller <sup>37</sup>	United States	4,700	14-19	Cross	—	Adolescents from seven areas in the United States selected from schools	- Identify behavioral mediators and moderators of adolescent victimization and SB	—	- RFs: victimization, SU, violent behavior, sexual RB	- Self-report data
Pavkov et al. <sup>72</sup>	United States	43,172	16-17	Long	—	School students in the United States	- Examine ethnic disparities between AI/AN, White, African American, and Hispanic/Latino youth based on YRBS	—	- RF: ethnicity (AI/AN)	- Self-report data - No inclusion of youth who did not attend school
Sheftall <sup>73</sup>	Ireland	80	13-18	CC	—	Community behavioral health system at a nationwide children's hospital	- Investigate the association between adolescent attachment security and suicidality	—	- RF: DS, attachment avoidance, attachment Anx; FA, ↓religiosity	- Selection bias - Timeframe surrounding the SA - Sample size - Selection of controls
Wu et al. <sup>9</sup>	United States	877	12-17	Cross	—	National Household Survey on Drug Abuse – selected those with SB	- To describe characteristics of adolescent SA - Examine patterns of MHSU and identify factors associated to that	- Outpatient (59%)> inpatient (22%) School based services (19%) - White> Blacks> Hispanics - Inpatient: not living with both parents, ↓ self-perceived health, foreign nativity and disruptive behaviors - General MHS: ↑anxiety, SUD and disruptive behaviors - Outpatient: ↑depression, female, moderately to highly family income, having Medicaid or Medicare - School based services: ↑ extracurricular activities	-	- Self-report from Adolescents - Impairment and duration of symptoms were not taken into account for depression, anxiety and disruptive behavior - Unable to measure internal barriers to obtaining services perceived by Ado
Veale <sup>41</sup>	United	1,537	9th-12th	Cross	—	All regular public	- Determine	—	—	- Descriptive study

Study	Country	Sample size	Age range (years)	Study design	Follow-up time	Sample details	Objectives	Compliance findings	Risk or protective factors	Limitations
	States		grades			schools in Iowa - randomly selected students	percentage of individuals with SI, SAs, and Hop and those requiring treatment because of SAs			- Did not cross variables
Grupp-Phelan et al. <sup>25</sup>	United States	24	12-17	RCT	2 days	-Ado presenting to pediatric ED, not currently receiving MHT, screening positive for SRB	- Evaluate whether TeenScreen-ED (motivational interview, barrier reduction, outpatient appointment, reminders before scheduled appointment) improved patient compliance with outpatient treatment	- 73% of TeenScreen-ED group scheduled MHS appointment, and 64% attended at their appointment - 54% of standard care group made an appointment, but only 15% kept appointment	—	- Potential for selection bias in the large nonparticipation rate, lower than expected positivity rate of SRB between overall sample and patient and parental acceptance of the procedure
Giraud et al. <sup>26</sup>	France	517	15 or younger	Long	1 year	Ado admitted to French EDs after SAs	- Describe epidemiological characteristics of Ado with SAs and observe psychological treatment after 1 year	- Only 35% were optimally observant of the care proposed, and 21% did not observe treatment - 15% were referred to the hospital because of an RSA	- RFs: female gender, family composition, academic problems, PD	- Short-term follow-up - No psychological or psychiatric evaluation following SA (only indirect assessment)
Alvarez <sup>43</sup>	United States	946	13-18	Cross	—	NCS – Adolescent Supplement	- Investigate relative effects of individual, FamF, and peer factors on SI, SP, and SAs	—	- RF: ↑ MD, ↓ FRel, NPI	- Lack of cultural information - Low reliability for peer relationships - Only English-speaking Latinos
Peralta, <sup>46</sup> study 2	United States	506	12-21	Long	4-6 years	Adolescents from high schools in NYC	- Identify characteristics of SI that predict future SAs	—	- RF: thinking for >1 hour about suicide at baseline, MD, SU, AD, DS, SI and SA history at baseline - RFs for transition from SI to SA at follow-up: PD,	- Retrospective assessment of SI characteristics was subject to recall bias - Follow-up assessment by telephone - Did not inquire about SP

Study	Country	Sample size	Age range (years)	Study design	Follow-up time	Sample details	Objectives	Compliance findings	Risk or protective factors	Limitations
Greene-Palmer et al. <sup>74</sup>	United States	85	13-18	Long	2 years	Adolescents HP immediately after SAs	- Describe parents' emotional and verbal reactions to adolescent SAs	—	wanting to die at baseline - RF: maternal hostility	- Parents' retrospective reports - Interviews conducted 35 days after SAs
Simonetti et al. <sup>75</sup>	United States	10,123	13-18	Long	36 months	Analysis of data	- Determine prevalence of SRHFA among adolescents - Estimate SR and PD among adolescents in contact with SRHFA compared to those among adolescents not in contact with SRHFA	—	—	- Data collected 10 years prior to publication - Potential reporting bias
Consoli et al. <sup>76</sup>	France	167	13-17	Long	6 months	Adolescent inpatients HP after SAs	- Analyze the potential RFs and PFs for recurrent SAs and a model of suicidality at follow-up	- Neither a previous history of SA at baseline nor the number of SAs prior to hospitalization predicted the reoccurrence of SB during the follow-up period in the multivariate analyses	- PFs (for reattempts): ACS hard work and achievement - RFs (for relapse in 6 months): MD, high DS, hop, seeking intense spiritual help, expressing a low value for life or a strong connection with the universe	- Small sample size - Short follow-up time - Different recruitment methods across sites - Important risk factors not assessed
Zaborskis et al. <sup>13</sup>	Lithuania	3,572	11-15	Cross	—	Schools representative by age and gender	- Determine the prevalence of SI and SAs - Association with FamF	- Adolescents with ↑ activities with parents had ↑MHT	- RF: NIF	- Recall bias and social distractibility - Did not include family history of SB - Did not measure confounding variables (PE, FC, PLE)
Xavier et al. <sup>77</sup>	Portugal	643	12-18	Cross	—	Middle and secondary schools in the	- Examine the protective role of self-compassion	—	- RF: female gender, age, hassles, Anx., DS	- Self-report questionnaires - Only analyzed



Study	Country	Sample size	Age range (years)	Study design	Follow-up time	Sample details	Objectives	Compliance findings	Risk or protective factors	Limitations
						central region of Portugal	for risk factors for NSSI			daily peer hassles
Qiao and Bell <sup>58</sup>	United States	2,296	9th-12th grades	Cross	12 months	YRBS (IA) nationwide in off-reservation high schools	- Examine SBs and RFs in the IA population	—	- RF: being female, being forced to have sex, feeling sad	- Heterogeneous sample (AIs, ANs, Native Hawaiians, and Pacific Islanders, living on and off reservations) - Only RFs in the dataset
Koenig et al. <sup>61</sup>	Germany	506	13-17	Long	2 years	Data from the German cohort of the SEYLE study	- Evaluate whether the new onset of D-SIB, its cessation or its maintenance is associated with SI and SAs	—	- RF for SI and SA: late onset of D-SIB - RF for D-SIB: DS - PF for SA: cessation of D-SIB	- Study based on self-reports - Measure of D-SIB did not differentiate D-SIB with/without intent to die - Large drop of participants (initial sample of 1,202 students) - Disproportionate representation of female students (962%)
Glenn et al. <sup>60</sup>	United States	280	12-19	Cross	—	106 outpatient patients, identified with SB; 174 inpatient patients admitted with SR	- Evaluate the age of onset and time lag between the onset of SI, NSSI and SAs	—	- RFs for SA: NSSI, SI, SP, younger age of onset of symptoms related to SB - Trajectories: thoughts of NSSI and SI began at the same age > 4-6 months later: NSSI > 3-6 months later: SP; 8-15 months later: SA	- Adolescents predominantly female and Caucasian with high socioeconomic status: limited generalizability - Report of age of onset was retrospective and susceptible to biases - Focused on descriptive approach to SB, rather than factors predicting the transition between categories

Study	Country	Sample size	Age range (years)	Study design	Follow-up time	Sample details	Objectives	Compliance findings	Risk or protective factors	Limitations
Orpinas et al. <sup>64</sup>	United States	588	6th-12th grades	Long	7 years	Cohort of couples of students who reported dating at least once	- Evaluate two trajectories of PPDV and its association with SA/SI, WPC and SU	—	- RF: ↑ PPDV	- Different time frames for the questions, which limited the accuracy of the conclusions - Self-reports
Zhang et al. <sup>55</sup>	China	3,600	12-18	Long	1 year	Hong Kong Schools	- Explore two potentially different pathways from - NE to SI and to SA	—	- RF: female gender, NSSI, SI (females)	- Only Chinese high school adolescents from Hong Kong - One item to assess participants' SAs - Mean substitution to deal with missing data - Only assessed NSSI frequency
Ballard et al. <sup>65</sup>	United States	970	8-18	RCR	6 months	Patients who underwent evaluation at pediatric ED departments	- Examine nursing compliance with the administration - The degree to which patient characteristics impact nursing compliance - Relationship between the ASQ and repeated visits to EDs for suicide-related reasons	—	- SR, higher ASQ: older age, SR complaint, HP after evaluation, less EB and no petition for evaluation - More chances to be at EDs for other reasons, but screen + for SR: being male and having EB - RFs for not been screened: being male, having ID, SU overdose, psychotic symptoms	- One single retrospective review of medical record data - For analyses of repeat ED visits, patients may have presented to other EDs - Presence of parents during the screening - The ASQ was used only with patients with psychiatric concerns, not with the general pediatric population
Holden <sup>66</sup>	England	680	13- 18	RCR	Average of 2 years	Clinical records of children receiving MHSS from 2008-2013 in south London and Maudsley	- Analyze whether bullying would be a predictor for suicidality in a sample of adolescents with ASD after correcting for variables, such as	—	- RF: bullying in patients with ASD - Possible interaction between functioning, bullying and suicidality	- Lack of informed consent - Limited to clinical records - Limitations of the use of natural language processing and TextHunter to

Study	Country	Sample size	Age range (years)	Study design	Follow-up time	Sample details	Objectives	Compliance findings	Risk or protective factors	Limitations
							MD, and Anx			identify all cases and time relations
Wharff et al. <sup>27</sup>	United States	139	13-18	RCT	1 month	Adolescents and their families presenting for psychiatric evaluation to EDs	- Compare FBCI at ED and TAU regarding the efficacy of intervention in terms of suicidality, family empowerment and satisfaction, and need for hospitalization	- FBCI- higher levels of satisfaction with treatment - Adolescents randomized to participate in an FBCI were significantly less likely to be HP than those undergoing TAU (OR 3.4)	—	- Lack of validated measure to assess suicidality - TAU and the FBCI had different times of assessment, which could have interfered with the results
Tamas <sup>67</sup>	Hungary	407	7-14	Cross	—	Sample from previous study of children and adolescents with depression, recruited from 23 psychiatric clinics in Hungary	- Evaluate the relation of different forms of SB with temperament and emotion regulation	—	- RFs: high maladaptive and low adaptive ER to dysphoria increased the odds of SB - RF: feelings of worthlessness were associated with SA - PF: adaptive ER protected against SR in depressive children and adolescents, unless they had extreme temperaments	- Study subjects were selected from a genetic study of depressed children and Ado - ISCA-D not designed for assessment of SB as primary goal - All patients had diagnoses of MD, which may have made the differentiation of SB and MD difficult - Measures of temperament and ER showed low reliability
Yen et al. <sup>30</sup>	United States	20	12-18	Long/Intervention	6 months	Adolescents recruited from HP because of SR	- Determine feasibility, acceptability and clinical outcomes of a positive affect skills-based program for acute settings, with technology-assisted reminders to practice skills in vivo settings (mindfulness)	- Responsiveness to text messages: participants responded 72.4% of the days - 6 months after discharge: one participant (5%) with SA; five (25%) had to be readmitted due to SR	—	- Sample was limited with regard to gender racial and ethnic diversity - Did not have a control group

Study	Country	Sample size	Age range (years)	Study design	Follow-up time	Sample details	Objectives	Compliance findings	Risk or protective factors	Limitations
Villar et al. <sup>78</sup>	Spain	417	8-17	Long	6 months	Patients with SB visiting the ED of a pediatric hospital from November 2013 to December 2015	meditation, gratitude, and savoring)  - Identify factors predicting SA relapse	—	- RFs for recurrent SA: diagnosis of personality disorder/maladaptive personality disorder, family history of PD, history of NSSI	- Diagnosis obtained by clinical interview - Did not evaluate SAs that did not require medical attention or were not reported by patient - Maladaptive traits or disorder affecting adolescents' families not specified - Short follow-up (6 months)
Czyz et al. <sup>28</sup>	United States	34	13-17	Long	6 months	High-risk suicidal adolescents followed up after psychiatric hospitalization due to SA or SI	- Address the feasibility and acceptability of an ecological assessment protocol for collecting daily suicide risk-related outcomes (SI/SA) among high-risk suicidal adolescents	- Previous SA was the only factor associated with survey adherence	—	- Sample drawn from inpatient unit, limiting generalizability - Small sample size - Recall bias regarding suicidal thoughts - Adherence might have been sustained by monetary compensation
Tavakoli et al. <sup>68</sup>	Canada	12 cases and 12 controls	13-17	Cross; CC	—	Adolescent HP for acute risk of suicide (not using benzodiazepines) and healthy controls	- Examine whether adolescents with SB are more likely to show a P3a, reflecting attention capture and processing	—	- SR patients showed more distractibility to sounds, which can be a promising marker for those at SR	- Small sample size - Depression could have been responsible for many of the findings related to changes in P3a - Use of medication in patient group - Behavior measure not provided; behavior shown by deterioration of

Study	Country	Sample size	Age range (years)	Study design	Follow-up time	Sample details	Objectives	Compliance findings	Risk or protective factors	Limitations
Normand et al. <sup>29</sup>	France	173	15-21	Long	1 year	Adolescents and young adults admitted to the ED after SAs	- Implement a one-year follow-up phone-call program for adolescent and young adult suicide attempters admitted to the ED	- RFs for losing contact with patient during follow-up: school dropout and first or second-generation migrant	- RFs for reattempts: female gender, need for inpatient care, first- or second-generation migrant	- Did not enable measurement of impact of the intervention on rates of SAs - Number of unreachable adolescents (80 at the end of follow-up)

ACS = Adolescent Coping Scale Melbourne; AD = anxiety disorder; AI = American Indian; AN = Alaskan Native; Anx = anxiety; ASQ = Ask Suicide Screening Questions; ASD = autistic spectrum disorder; BDI = Beck Depression Inventory; CC = case control; Cross = cross-sectional/transversal; CS = completed suicide; DB = disrupted behavior; D-SIB = deliberate self-injury behavior; EB = externalizing behavior; ED = emergency department; ER = emotional regulation; FamF = familial factors; FBCI = family-based crisis intervention; FRel = family relationship; Hop = hopelessness; HP = hospitalized; IAs = indigenous adolescents; ID = internalizing disorder; IYS = Illinois Youth Survey; LAUSD = Los Angeles Unified School District; Long = longitudinal study; MD = major depression; MHT = mental health treatment; NA = non-attempter; NCS = National Comorbidity Survey; NCS-A = National Comorbidity Survey Adolescent Supplement; NE = negative emotion; NIF = nonintact family; NPI = negative peer influence; NSSI = nonsuicidal self-injury; NYC = New York City; OR = odds ratio; PD = psychiatric disorder; PDF = post-discharge follow-up; PF = protective factor; PLE = psychotic-like experience; PPDV = perpetration of physical dating violence; RB = risk behavior; RCR = retrospective chart review; RCT = randomized controlled trial; RF = risk factor; RSA = repeated suicide attempt; SA = suicide attempt; SB = suicidal behavior; SDI = structured diagnostic interview; SDP = standard disposition planning (intervention or group); SEYLE = Saving and Empowering Young Lives in Europe; SI = suicidal ideation; SpERP = Specialized Emergency Room Program (videotaped orientation to treatment, staff training, and a structured family therapy session); SR = suicide risk; StERC = standard emergency room care; SU = substance use; TAU = treatment as usual; USA = United States of America; VB = violent behavior; WPC = weapon carrying; YRBS = Youth Risk Behavior Survey; YSPP = LAUSD Youth Suicide Prevention Program.

**Table S4** Summary of data extraction: completed suicide, compliance and risk and protective factors for suicide

Study	Country	Sample size	Age range	Study design	Follow-up time	Sample details	Objectives	Compliance findings	Risk or protective factors	Limitations
Moskos et al. <sup>79</sup>	United States	51	13-21	Cross	—	- Consecutive youth suicide deaths from June 1996 to November 1998	- Identify which contacts recognized RFs for SB, symptoms of PD, and barriers to MHT for the decedent	—	- PF: parents and friends are the most appropriate individuals for gatekeeper training - RFs: social isolation, romantic distress	- Small population - Majority of sample: white males - CM may not have been assessed well
Renaud et al. <sup>8</sup>	Canada	55	11-18	Cross/CC	—	- Adolescents who committed suicide in Quebec vs healthy controls	- Determine utilization of HCSs prior to suicide (different time periods) among adolescents and healthy controls	- Two thirds did not have access to appropriate HCSs - 12.7% had been in contact with psychiatric services in the month prior - 54.4% of those who received treatment → poorly compliant/not compliant - Females: ↑ psychiatric and MHS contacts	- RFs: sex, mental disorders, previous SAs, poor compliance with MHS	- Small sample size - CS
Holland et al. <sup>80</sup>	United States	482	11-15	Cross QUALI/QU ANTI	—	- Random selection of 30% of NVDRS suicide cases	- Identify common characteristics and antecedents of suicides based on narrative data - School, relationship and individual problems	—	- RF: RelP ↑ prevalent in family (56%) - IP (mental health 52%, alcohol and SU, NSSI) SchP 6%. - PDP → frequent precipitator (20%)	- Variable data quality - Information provided by next-of-kin, parents, friends, and other acquaintances - Suicide investigation process involved difficulties in sharing intimate details (sexual orientation) - Small sample size

Cross = cross-sectional/transversal; CC = case-control; CS = completed suicide; CM = child maltreatment; HCS = health care service; IP = individual problems; MHT = mental health treatment; NSSI = non-suicidal self-injury; NVDRS = National Violent Death Reporting System; PD = psychiatry disorders; PDP = post-discharge plan; RelP = relationship problems; RF = risk factor; SA = suicide attempt; SB = suicidal behavior; SchP = school problems; SU = substance use.

## References

1. Springer A, Parcel G, Baumler E, Ross M. Supportive social relationships and adolescent health risk behavior among secondary school students in El Salvador. *Soc Sci Med*. 2006;62:1628-40.
2. Kataoka S, Stein BD, Nadeem E, Wong M. Who gets care? Mental health service use following a school-based suicide prevention program. *J Am Acad Child Adolesc Psychiatry*. 2007;46:1341-8.
3. Freedenthal S. Racial disparities in mental health service use by adolescents who thought about or attempted suicide. *Suicide Life Threat Behav*. 2007;37:22-34.
4. Burns CD, Cortell R, Wagner BM. Treatment compliance in adolescents after attempted suicide: a 2-year follow-up study. *J Am Acad Child Adolesc Psychiatry*. 2008;47:948-57.
5. Ramchand R, Griffin BA, Harris KM, McCaffrey DF, Morral AR. A prospective investigation of suicide ideation, attempts, and use of mental health service among adolescents in substance abuse treatment. *Psychol Addict Behav*. 2008;22:524-32.
6. Groholt B, Ekeberg O. Prognosis after adolescent suicide attempt: mental health, psychiatric treatment, and suicide attempts in a nine-year follow-up study. *Suicide Life Threat Behav*. 2009;39:125-36.
7. O'Mara RM. Six year outcomes of suicidal adolescents: the role of sexual abuse [dissertation]. Michigan: University of Michigan; 2010.
8. Renaud J, Berlim MT, Séguin M, McGirr A, Tousignant M, Turecki G. Recent and lifetime utilization of health care services by children and adolescent suicide victims: a case-control study. *J Affect Disord*. 2009;117:168-73.
9. Wu P, Katic BJ, Liu X, Fan B, Fuller CJ. Mental health service use among suicidal adolescents: findings from a U.S. national community survey. *Psychiatr Serv*. 2010;61:17-24.
10. Husky MM, Olfson M, He JP, Nock MK, Swanson SA, Merikangas KR. Twelve-month suicidal symptoms and use of services among adolescents: results from the National Comorbidity Survey. *Psychiatr Serv*. 2012;63:989-96.
11. Nock MK, Green JG, Hwang I, McLaughlin KA, Sampson NA, Zaslavsky AM, et al. Prevalence, correlates, and treatment of lifetime suicidal behavior among adolescents: results from the National Comorbidity Survey replication adolescent supplement. *JAMA Psychiatry*. 2013;70:300-10.
12. Yen S, Fuller AK, Solomon J, Spirito A. Follow-up treatment utilization by hospitalized suicidal adolescents. *J Psychiatr Pract*. 2014;20:353-62.
13. Zaborskis A, Sirvyte D, Zemaitiene N. Prevalence and familial predictors of suicidal behaviour among adolescents in Lithuania: a cross-sectional survey 2014. *BMC Public Health*. 2016;16:554.
14. Borges G, Benjet C, Medina-Mora ME, Orozco R, Familiar I, Nock MK, et al. Service use among Mexico City adolescents with suicidality. *J Affect Disord*. 2010;120:32-9.
15. Wozencraft T, Wagner W, Pellegrin A. Depression and suicidal ideation in sexually abused children. *Child Abuse Negl*. 1991;15:505-11.
16. Trautman PD, Stewart N, Morishima A. Are adolescent suicide attempters noncompliant with outpatient care? *J Am Acad Child Adolesc Psychiatry*. 1993;32:89-94.
17. Spirito A, Lewander WJ, Levy S, Kurkjian J, Fritz G. Emergency department assessment of adolescent suicide attempters: factors related to short-term follow-up outcome. *Pediatr Emerg Care*. 1994;10:6-12.
18. King CA, Segal H, Kaminski K, Naylor MW, Ghaziuddin N, Radpour L. A prospective study of adolescent suicidal behavior following hospitalization. *Suicide Life Threat Behav*. 1995;25:327-38.
19. Rotheram-Borus MJ, Piacentini J, Van Rossem R, Graae F, Cantwell C, Castro-Blanco D, et al. Enhancing treatment adherence with a specialized emergency room program for adolescent suicide attempters. *J Am Acad Child Adolesc Psychiatry*. 1996;35:654-63.
20. King CA, Hovey JD, Brand E, Wilson R, Ghaziuddin N. Suicidal adolescents after hospitalization: parent and family impacts on treatment follow-through. *J Am Acad Child Adolesc Psychiatry*. 1997;36:85-93.
21. Burgess S, Hawton K, Loveday G. Adolescents who take overdoses: outcome in terms of changes in psychopathology and the adolescents' attitudes to care and to their overdose. *J Adolesc*. 1998;21:209-18.

22. Rotheram-Borus MJ, Piacentini J, Van Rossem R, Graae F, Cantwell C, Castro-Blanco D, et al. Treatment adherence among Latina female adolescent suicide attempters. *Suicide Life Threat Behav.* 1999;29:319-31.
23. Granboulan V, Roudot-Thoraval F, Lemerle S, Alvin P. Predictive factors of post-discharge follow-up care among adolescent suicide attempters. *Acta Psychiatr Scand.* 2001;104:31-6.
24. Spirito A, Boergers J, Donaldson D, Bishop D, Lewander W. An intervention trial to improve adherence to community treatment by adolescents after a suicide attempt. *J Am Acad Child Adolesc Psychiatry.* 2002;41:435-42.
25. Grupp-Phelan J, McGuire L, Husky MM, Olfson M. A randomized controlled trial to engage in care of adolescent emergency department patients with mental health problems that increase suicide risk. *Pediatr Emerg Care.* 2012;28:1263-8.
26. Giraud P, Fortanier C, Fabre G, Ghariani J, Guillermain Y, Rouviere N, et al. Tentatives de suicide: étude descriptive d'une cohorte de 517 adolescents de moins de 15 ans et 3 mois. *Arch Pediatr.* 2013;20:608-15.
27. Wharff EA, Ginnis KB, Ross AM, White EM, White MT, Forbes PW. Family-based crisis intervention with suicidal adolescents: a randomized clinical trial. *Pediatr Emerg Care.* 2019;35:170-5.
28. Czyz EK, King CA, Nahum-Shani I. Ecological assessment of daily suicidal thoughts and attempts among suicidal teens after psychiatric hospitalization: lessons about feasibility and acceptability. *Psychiatry Res.* 2018;267:566-74.
29. Normand D, Colin S, Gaboulaud V, Baubet T, Taieb O. How to stay in touch with adolescents and young adults after a suicide attempt? Implementation of a 4-phones-calls procedure over 1 year after discharge from hospital, in a Parisian suburb. *Encephale.* 2018;44:301-7.
30. Yen S, Ranney ML, Tezanos KM, Chuong A, Kahler CW, Solomon JB, et al. Skills to enhance positivity in suicidal adolescents: results from an open development trial. *Behav Modif.* 2019;43:202-21.
31. Prinstein MJ, Boergers J, Spirito A. Adolescents' and their friends' health-risk behavior: Factors that alter or add to peer influence. *J Pediatr Psychol.* 2001;26:287-98.
32. Randell BP, Eggert LL, Pike KC. Immediate post intervention effects of two brief youth suicide prevention interventions. *Suicide Life Threat Behav.* 2001;31:41-61.
33. Hooven C, Walsh E, Pike KC, Herting JR. Promoting CARE: including parents in youth suicide prevention. *Fam Community Health.* 2012;35:225-35.
34. Hallfors D, Brodish PH, Khatapoush S, Sanchez V, Cho H, Steckler A. Feasibility of screening adolescents for suicide risk in "real-world" high school settings. *Am J Public Health.* 2006;96:282-7.
35. Carrizales I. Loneliness, violence, aggression, and suicidality in incarcerated youth. Stillwater: Oklahoma State University; 2007.
36. Lee D, Jung S, Park S, Hong HJ. The impact of psychological problems and adverse life events on suicidal ideation among adolescents using nationwide data of a school-based mental health screening test in Korea. *Eur Child Adolesc Psychiatry.* 2018;27:1361-72
37. Litwiller BJ. Behavioral mediators and moderators of adolescent victimization and suicidal behavior [thesis]. Charleston: Eastern Illinois University; 2010.
38. George AA. Risk and resilience in adolescent suicidal ideation [thesis]. Bloemfontein, South Africa: University of the Free State; 2009.
39. Ng SM, Chan CLW, Ran MS. Factors related to suicidal ideation among adolescents in Hong Kong. *Illn Crisis Loss.* 2010;18:341-54.
40. Gammelgård M, Koivisto A-M, Eronen M, Kaltiala-Heino R. Violence risk and psychopathology in institutionalised adolescents. *J Forens Psychiatry Psychol.* 2010;21:933-49.
41. Veale JR. Youth risk behavior survey: Iowa High Schools. Final report. Des Moines: Iowa Department of Education; 2014.
42. Gallagher M, Prinstein MJ, Simon V, Spirito A. Social anxiety symptoms and suicidal ideation in a clinical sample of early adolescents: examining loneliness and social support as longitudinal mediators. *J Abnorm Child Psychol.* 2014;42:871-83.



43. Alvarez BAK. Suicidality among Latina adolescents: the relative effects of psychosocial risk factors and psychological symptoms [dissertation]. Austin: University of Texas; 2014.
44. Watton C. Suicidal youth in America: the role of school disengagement and other sociodemographic factors [thesis]. Guelph: University of Guelph; 2014.
45. Peralta A. Risk factors for suicidal behavior in adolescence: the role of suicidal ideation [dissertation]. Barcelona: Universitat Autònoma de Barcelona; 2015.
46. Peralta A. Risk factors for suicidal behavior in adolescence: the role of suicidal ideation [dissertation]. Barcelona: Universitat Autònoma de Barcelona; 2015.
47. Mueller AS, James W, Abrutyn S, Levin ML. Suicide ideation and bullying among US adolescents: examining the intersections of sexual orientation, gender, and race/ethnicity. *Am J Public Health*. 2015;105:980-5.
48. Lee GY, Choi YJ. Association of school, family, and mental health characteristics with suicidal ideation among Korean adolescents. *Res Nurs Health*. 2015;38:301-10.
49. Burke TA, Connolly SL, Hamilton JL, Stange JP, Abramson LY, Alloy LB. Cognitive risk and protective factors for suicidal ideation: a two year longitudinal study in adolescence. *J Abnorm Child Psychol*. 2015;44:1145-60.
50. Mirkovic B, Labelle R, Guilé JM, Belloncle V, Bodeau N, Knafo A, et al. Coping skills among adolescent suicide attempters: results of a multisite study. *Can J Psychiatry*. 2015;60:S37-45.
51. Breton JJ, Labelle R, Berthiaume C, Royer C, St-Georges M, Ricard D, et al. Protective factors against depression and suicidal behaviour in adolescence. *Can J Psychiatry*. 2015;60:S5-15.
52. Knafo A, Guile JM, Breton JJ, Labelle R, Belloncle V, Bodeau N, et al. Coping strategies associated with suicidal behaviour in adolescent inpatients with borderline personality disorder. *Can J Psychiatry*. 2015;60:S46-54.
53. Gorzig A. Adolescents' viewing of suicide-related web content and psychological problems: differentiating the roles of cyberbullying involvement. *Cyberpsychol Behav Soc Netw*. 2016;19:502-9.
54. Miller AB, Jenness JL, Oppenheimer CW, Gottlieb AL, Young JF, Hankin BL. Childhood emotional maltreatment as a robust predictor of suicidal ideation: a 3-year multi-wave, prospective investigation. *J Abnorm Child Psychol*. 2017;45:105-16.
55. Zhang X, Ren Y, You J, Huang C, Jiang Y, Lin MP, et al. Distinguishing pathways from negative emotions to suicide ideation and to suicide attempt: the differential mediating effects of nonsuicidal self-injury. *J Abnorm Child Psychol*. 2017;45:1609-19.
56. Zalsman G, Shoval G, Mansbach-Kleinfeld I, Farbstein I, Kanaaneh R, Lubin G, et al. Maternal versus adolescent reports of suicidal behaviors: a nationwide survey in Israel. *Eur Child Adolesc Psychiatry*. 2016;25:1349-59.
57. Hollinger JM. Adolescent attitudes toward and perceptions of suicide, stigma, and help-seeking behavior [dissertation]. Philadelphia: Philadelphia College of Osteopathic Medicine; 2016.
58. Qiao N, Bell TM. Indigenous adolescents' suicidal behaviors and risk factors: evidence from the national youth risk behavior survey. *J Immigr Minor Health*. 2016;19:590-7.
59. Watters LJ. The relationship between suicide ideation and adult support among African American adolescent lesbians [dissertation]. Minneapolis: Walden University; 2016.
60. Glenn CR, Lanzillo EC, Esposito EC, Santee AC, Nock MK, Auerbach RP. Examining the course of suicidal and nonsuicidal self-injurious thoughts and behaviors in outpatient and inpatient adolescents. *J Abnorm Child Psychol*. 2017;45:971-83.
61. Koenig J, Brunner R, Fischer-Waldschmidt G, Parzer P, Plener PL, Park J, et al. Prospective risk for suicidal thoughts and behaviour in adolescents with onset, maintenance or cessation of direct self-injurious behaviour. *Eur Child Adolesc Psychiatry*. 2017;26:345-54.
62. Veras JL, Ximenes RC, de Vasconcelos FM, Sougey EB. Prevalence of suicide risk among adolescents with depressive symptoms. *Arch Psychiatr Nurs*. 2016;30:2-6.
63. Benatov J, Nakash O, Chen-Gal S, Brunstein Klomek A. The association between gender, ethnicity, and suicidality among vocational students in Israel. *Suicide Life Threat Behav*. 2017;47:647-59.

64. Orpinas P, Nahapetyan L, Truszczynski N. Low and increasing trajectories of perpetration of physical dating violence: 7-year associations with suicidal ideation, weapons, and substance use. *J Youth Adolesc.* 2017;46:970-81.
65. Ballard ED, Cwik M, Van Eck K, Goldstein M, Alfes C, Wilson ME, et al. Identification of at-risk youth by suicide screening in a pediatric emergency department. *Prev Sci.* 2017;18:174-82.
66. Holden R. Risk factors for suicidality in clinical populations of adolescents. Canterbury: Canterbury Christ Church University; 2018.
67. Tamás Z. Various forms of suicidality in clinically referred depressed children and adolescents: Relations of temperament and emotion self-regulation and clinical features [dissertation]. Szeged: University of Szeged; 2017.
68. Tavakoli P, Boafó A, Dale A, Robillard R, Greenham SL, Campbell K. Event-related potential measures of attention capture in adolescent inpatients with acute suicidal behavior. *Front Psychiatry.* 2018;9:85.
69. Sarkisian KL, Van Hulle CA, Hill Goldsmith H. Brooding, inattention, and impulsivity as predictors of adolescent suicidal ideation. *J Abnorm Child Psychol.* 2019;47:333-44.
70. Lee D, Jung S, Park S, Hong HJ. The impact of psychological problems and adverse life events on suicidal ideation among adolescents using nationwide data of a school-based mental health screening test in Korea. *Eur Child Adolesc Psychiatry.* 2018;27:1361-72.
71. Queralt M. Psychosocial risk factors associated with suicide in a small community sample of Latino adolescent attempters. *Child Sch.* 1993;15:91-103.
72. Pavkov TW, Travis L, Fox KA, King CB, Cross TL. Tribal youth victimization and delinquency: analysis of Youth Risk Behavior Surveillance Survey data. *Cultur Divers Ethnic Minor Psychol.* 2010;16:123-34.
73. Sheftall AH. Attachment and suicidality in adolescents: an exploration of mediators and moderators [dissertation]. Columbus: Ohio State University; 2010.
74. Greene-Palmer FN, Wagner BM, Neely LL, Cox DW, Kochanski KM, Perera KU, et al. How parental reactions change in response to adolescent suicide attempt. *Arch Suicide Res.* 2015;19:414-21.
75. Simonetti JA, Mackelprang JL, Rowhani-Rahbar A, Zatzick D, Rivara FP. Psychiatric comorbidity, suicidality, and in-home firearm access among a nationally representative sample of adolescents. *JAMA Psychiatry.* 2015;72:152-9.
76. Consoli A, Cohen D, Bodeau N, Guile JM, Mirkovic B, Knafo A, et al. Risk and protective factors for suicidality at 6-month follow-up in adolescent inpatients who attempted suicide: an exploratory model. *Can J Psychiatry.* 2015;60:S27-36.
77. Xavier A, Pinto-Gouveia J, Cunha M. The protective role of self-compassion on risk factors for non-suicidal self-injury in adolescence. *School Mental Health.* 2016;8:476-85.
78. Villar F, Castellano-Tejedor C, Verge M, Sánchez B, Blasco-Blasco T. Predictors of suicide behavior relapse in pediatric population. *Span J Psychol.* 2018;21:E6.
79. Moskos M, Olson L, Halbern S, Keller T, Gray D. Utah youth suicide study: psychological autopsy. *Suicide Life Threat Behav.* 2005;35:536-46.
80. Holland KM, Vivolo-Kantor AM, Logan JE, Leemis RW. Antecedents of suicide among youth aged 11-15: a multistate mixed methods analysis. *J Youth Adolesc.* 2017;46:1598-610.