


Protective Factors in Youth Suicide: A Systematic Review of Evidence from Cross- Sectional Studies

Genç İntiharlarında Koruyucu Faktörler: Kesitsel
Araştırmalardan Elde Edilen Bulguların Sistematiik Derlemesi

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ABSTRACT

Suicide is a global health problem, ranking among the top three causes of death during young and emerging adulthood. While much of the existing literature has concentrated on risk factors, there is a growing need to examine protective factors that may buffer against suicidal thoughts and behaviors. This systematic review aims to synthesize empirical findings on protective factors associated with reduced suicide risk among youth. A total of 41 peer-reviewed studies were included based on predefined inclusion criteria. The results identified five key protective factors that were consistently associated with lower levels of suicidal ideation and behavior: perceived social support, resilience, religiosity, self-esteem, and meaning/purpose in life. These findings underscore the importance of shifting toward a more balanced research and intervention agenda that incorporates protective processes. Integrating these protective factors into treatment plans and national prevention strategies could foster a reduction in suicide risk among youth. By prioritizing the cultivation of these five protective factors, prevention efforts can move beyond merely reducing risk to actively building psychological and social resources that promote life-sustaining resilience in young people. Therefore, all intervention and prevention strategies — from school-based programs to national mental health policies — urgently need to be redesigned to systematically foster these five protective factors alongside reducing risk.

Keywords: Suicide, youth, protective, resilience, prevention

ÖZ

İntihar, genç yetişkinlik ve beliren yetişkinlik dönemlerindeki ölüm nedenleri arasında ilk üç sırada yer alan küresel bir halk sağlığı sorunudur. Mevcut literatür, çoğunlukla risk faktörleri üzerinde durmakla birlikte, bireyleri intihara düşünce ve davranışlarına karşı koruyan faktörlerin ele alındığı çalışmalara yönelik ihtiyaç giderek artmaktadır. Bu sistematiik derleme, gençler arasında intihar riskiyle negatif yönde ilişkili bulunan koruyucu faktörlere yönelik ampirik bulguları sentezlemeyi hedeflemektedir. Önceden oluşturulan kriterlere göre belirlenen 41 hakemli çalışma derlemeye dahil edilmiştir. Bulgular, intihar düşünce ve girişimleri ile negatif yönde ve anlamlı ilişkisi olan beş temel koruyucu faktör olduğunu ortaya koymuştur: algılanan sosyal destek, psikolojik dayanıklılık (resilience), dindarlık, benlik saygısı ve yaşamda anlam/amaç. Elde edilen sonuçlar, araştırma ve müdahale süreçlerinin daha dengeli bir çerçevede yürütülmesinin ve koruyucu faktörlerin de bu süreçlere entegre edilmesinin önemine dikkat çekmektedir. Bu koruyucu faktörlerin tedavi planlarına ve ulusal önleme planlarına dahil edilmesi, gençler arasında intihar riskinin azaltılmasına katkı sağlayabilir. Bu beş koruyucu faktörün bilinçli olarak güçlendirilmesine öncelik verilerek, önleme çalışmaları yalnızca riski azaltmanın ötesine geçebilir ve gençlerde yaşamı sürdüren psikolojik ve sosyal kaynakları aktif biçimde oluşturulabilir. Bu nedenle, okul temelli programlardan ulusal ruh sağlığı politikalarına kadar tüm müdahale ve önleme stratejilerinin, risk faktörlerini azaltmanın yanı sıra bu beş koruyucu faktörü sistematiik olarak geliştirecek şekilde yeniden tasarlanması acil bir ihtiyaçtır.

Anahtar sözcükler: İntihar, genç, koruyucu, dayanıklılık, önleme

Introduction

Suicide is a major medical and social problem among youth. Each year, almost 800,000 individuals die by suicide, with youth representing almost 30% of these deaths (World Health Organization [WHO] 2021). This concern is amplified by the evidence showing that many individuals who attempt suicide later in life have previously considered or attempted suicide during their youth (Glenn et al. 2020). Globally, individuals aged 18 to 25 have the highest prevalence of suicidal ideation (11.8%) and suicidal attempts (1.8%) compared to other age groups (National Institute of Mental Health [NIMH] 2020). On a global scale, 25 suicide attempts are reported for every one suicide death (a 1:25 ratio), whereas among youth, this ratio is reported to increase to between 100 and 200 attempts per death (a 1:100-200 ratio) (Centers for Disease Control and Prevention [CDC] 2021). Furthermore, due to methodological drawbacks in suicide research (e.g., stigma related to the nature of the death, misclassification, and underreporting), it is estimated that actual figures may be underreported by up to 50% (Katz et al. 2016, Fadakar et al. 2023). Beyond the individual level, suicide has major adverse effects at the societal level, including emotional distress experienced by the decedent's close circle, financial burden due to expenses in medical care, funeral costs, and decreased productivity due to loss of individuals (The U. S. Department of Health and Human Services [HHS] 2012).

Suicide is the second leading cause of death and the leading non-natural cause of death for individuals aged between 15 and 34 (Stone et al. 2017). Although Türkiye has comparatively low suicide rates on an international scale, it still represents a major societal concern among youth as deaths by suicide rank among the leading causes of death in individuals aged 15 to 34. Notably, 48.1% of all suicide deaths occur within this age group (Turkish Statistical Institute [TÜİK] 2025). This is compounded by the substantial prevalence of suicidal ideation among young people in Türkiye (Karkin and Eskin 2023). A recent WHO (2014) report highlights the importance of making suicide prevention a global priority by encouraging countries to systematically evaluate both risk and protective factors.

However, despite growing efforts devoted to identifying risk factors (Kessler et al. 2020), it seems that suicide rates have not been subject to a decrease for the past couple of decades (Stone et al. 2014) and that the research focus still seems to be on the risk factors, with comparatively less attention to the factors that promote resilience (Sher 2020). According to Bilsen (2018), the purpose of identifying protective factors is to alleviate the effects of certain risk factors through the implementation of preventive strategies. This process of integration and identification, however, is a non-straightforward one, and the factors included in both ends should be considered cumulatively (Fergusson et al. 2003). In a similar vein, it is crucial to move beyond basic bivariate associations and examine how hypothesized risk and protective factors interact in relation to suicidal thoughts and behaviors (Johnson et al. 2011).

Mental health conditions are consistently linked to increased suicide risk (Cai et al. 2021). However, preventing suicide simply by treating mental disorders might be a slightly reductionistic and optimistic approach because there is a general perception that suicide research needs to go beyond mental disorders and come up with more inclusive models to explain the multifaceted interplay between risk and protective factors (Large et al. 2018). This motivation is largely driven by the finding that many individuals with multiple risk factors do not immediately proceed to make a suicidal attempt (Nock et al. 2008), even in the case of depression (Fergusson et al. 2003), which was found to be one of the most prominent mental health condition associated with suicide deaths (Bertolote and Fleischmann 2002).

Suicide is often seen as the outcome of complex interactions between multiple risk and protective factors. When the influence of risk factors outweighs the buffering effects of protective factors, individuals may be at greater risk of developing suicidal thoughts and engaging in suicidal behavior (Maris 2002). Therefore, beyond identifying risk factors, it is important to explore their interaction with protective factors (Ryan et al. 2020). To complement the prevailing focus on psychiatric models, research has begun to incorporate sociological and socio-psychological perspectives on suicide. As outlined in the socioecological model (HHS 2012), suicidal behavior may be shaped by factors operating across four interconnected levels, incorporating both risk and protective factors. The first level is individual influences, referring to hereditary influences, personality characteristics, perceptions, and attitudes that affect suicidal behavior. The second level is relationship-related influences, referring to interpersonal relationships such as

relationships with friends and family members. The third level is community influences, reflecting the effects of institutions, workplaces, school settings, and healthcare systems. The fourth level is societal, including the effects of media and governmental policies.

In sum, there is a need for a scientifically balanced approach that gives equal weight to both risk and protective factors to explain youth suicidal thoughts and behaviors. The ecological model and buffering hypothesis are among the frameworks that facilitate a more integrated understanding of how risk and protective factors may interact in the development of suicidal thoughts and behaviors. According to the ecological model, protective factors should be separated into two categories: individual assets (e.g., problem-solving skills, emotion regulation, self-esteem) and ecological resources (e.g., perceived social support) (Gallagher et al. 2018). In the buffering hypothesis (Johnson et al. 2011), protective factors are variables that directly reduce the likelihood of engaging in suicidal thoughts or behaviors, whereas buffering factors operate by modifying the strength or direction of the relationship between risk factors and suicide outcomes, typically through moderating or mediating effects. Resilience, in this context, refers to one's internal or psychological capacity to maintain well-being in the face of adversity, which may also serve as a protective mechanism against suicide. This distinction was made to enhance conceptual clarity across the reviewed studies.

Some limitations of resilience in suicide research such as excessive focus on cross-sectional research design, limited focus on studying with diverse samples (e.g., clinical samples and minorities), overreliance on suicidal ideation as the outcome variable, methodological impediments in suicide research (e.g., lack of consensus on the definition, low base prevalence rates, underreporting, stigma). Despite limitations, further investigation into protective factors against suicidal thoughts and attempts remain crucial, as the transition from early adolescence to young adulthood is marked by the most significant increase in death by suicide across a lifetime (Nock et al. 2008). What is more alarming is that the onset of suicidal behavior in adulthood is generally believed to have its origins in preceding developmental periods such as emerging and young adulthood (Kessler et al. 1999).

The present systematic review aims to identify and synthesize the protective factors associated with suicidal thoughts and behaviors across youth in various contexts. While existing research has predominantly focused on risk factors, comparatively less attention has been given to the protective mechanisms that reduce vulnerability to suicide. This review addresses this gap by systematically examining empirical studies that report protective factors. By mapping these factors and evaluating the strength of the available evidence, this study offers a comprehensive overview of the current state of knowledge. The findings are expected to inform future research, prevention programs, and interventions by highlighting empirically supported protective factors that can be targeted in practice.

Method

Inclusion/Exclusion Criteria

Studies were identified as eligible if they (1) were published in peer-reviewed journals, (2) aimed to explain any form of suicidal behavior (i.e., suicidal ideation, attempt, or plans), (3) targeted youth samples (i.e., college students, young adults or emerging adults), (4) utilized a cross-sectional design, (5) did not include non-suicidal self-injury or death by suicide as the outcome variables, (6) employed quantitative methods, (7) were published in English.

Studies were excluded if they (1) utilized qualitative designs, (2) examined self-injurious behaviors, self-harm, or death by suicide as outcome variables, (3) employed longitudinal or experimental designs, or (4) did not focus on college students, young adults, or emerging adults. The search was limited to studies published between 1980 and 2024. The primary research question guiding this review was: What are protective and/or resilience factors associated with suicidal thoughts and behaviours, excluding deaths by suicide, among youth?

Search Strategy

This systematic review was conducted in accordance with the Cochrane Collaboration guidelines and the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) Statement (Moher et al. 2009). In the process of identification of studies via databases, Web of Science, Scopus, PubMed, and PsycInfo were searched using Boolean phrases related to protective factors in suicidal thoughts and behaviors among youth. The search was conducted on March 3, 2024, using the keywords "suicid* AND (emerging adult* OR young adult*) AND (resilien* OR buffer* OR protect)", which generated a total of 350 results. The PRISMA flow diagram reflecting the procedures engaged resulted in 41 studies is illustrated in Figure 1.

Data Extraction

Data extraction was conducted by the author using a predetermined Excel template to record study characteristics, including authorship, publication year, sample size with gender distribution, sampling methods, and instruments used to assess suicidal thoughts and behaviours, and protective factors. When study details were unclear, these were marked as N/A. To synthesize the findings across the identified studies, a narrative synthesis approach was employed.

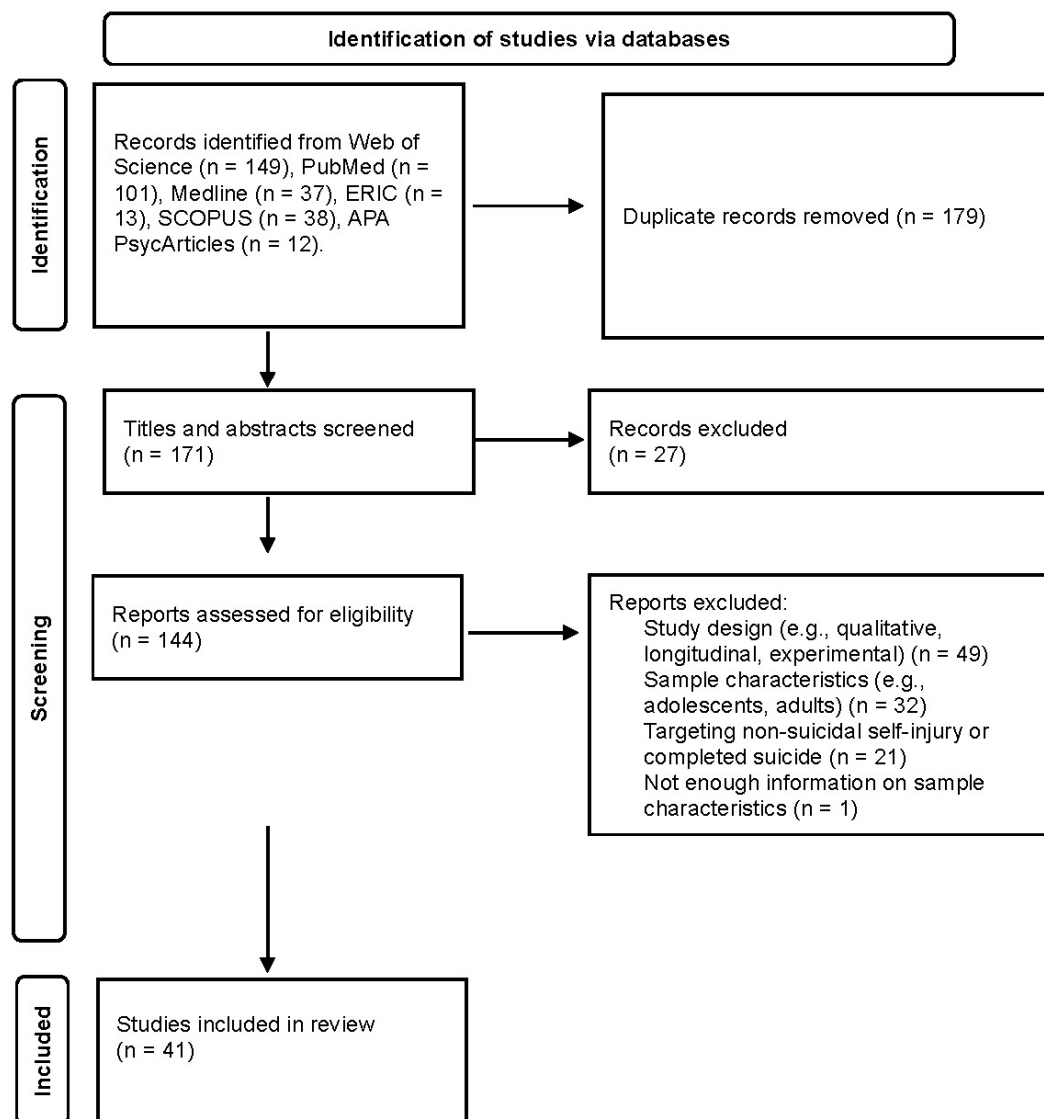


Figure 1. PRISMA flow diagram

Results

The literature search yielded a total of 350 studies across seven databases. After 179 duplicate records were removed, there were 171 studies left to be titles and abstracts screened, which resulted in the exclusion of 27 records. In total, 144 reports were assessed for eligibility, and 103 of them were excluded due to study design (e.g., being qualitative), sample characteristics (e.g., conducted with adolescents or adults), outcome variables (e.g., non-suicidal self-injury), and limited information on sample characteristics. As a result, a total of 41 studies were included in the review, and the results were summarized based on 23 protective factors extracted. In some studies, it was hypothesized that only the concomitant presence of two or more protective factors decreases suicidal ideation, and the analyses were conducted accordingly (e.g., Ryan et al. 2010, Choi et al. 2021). The results of the literature search on protective factors among youth were presented separately, and the five most recurrent protective factors were explained in detail. In Figure 1, the PRISMA flowchart summarizing the procedures engaged while selecting records is presented.

Characteristics of the Studies Selected

Except for eight studies out of forty-one, the samples utilized consisted primarily of women (i.e., above fifty percent). There was an increasing trend in the number of studies published; 65.85% of the studies were carried out after 2020. Most of the studies ($n = 28$) included relatively larger sample sizes (e.g., above 300). Apart from ethnic identity, entire protective factors were assessed based on scale measures rather than simple measures. The convenience sampling method was the most commonly used sampling methodology ($n = 40$), except for one study that used a purposive sampling method. To measure the targeted outcome variable(s), three of the most commonly used instruments to measure suicidal ideation were the Beck Scale for Suicide Ideation ($n = 9$), Suicidal Behavior Questionnaire-Revised ($n = 8$), and Columbia Suicide Severity Scale ($n=3$). In addition, some studies employed simpler measures of close-ended questions (e.g., In the past 12 months, did you ever seriously think of attempting suicide?) prepared by researchers. Most of the studies ($n = 30$) were conducted within Western countries (e.g., United States, Canada, Australia, etc.), followed by Eastern ($n = 7$) (e.g., China, South Korea, etc.) and Middle Eastern ($n = 4$) (e.g., Pakistan, Israel, Egypt) countries.

Based on the eligibility criteria used, the earliest cross-sectional study regarding protective factors against suicidal ideation and attempts was conducted in 2010, and the most recent one was conducted in 2024. Most of the studies relied on samples from non-clinical populations. Depression was the most accentuated variable ($n = 10$), of which a particular protective factor attenuated its effect on suicidal thoughts. Some relevant risk factors associated with increases in suicidal thoughts and behaviors were impairments in problem-solving skills (Linda et al. 2012), impulsivity (Abdullah et al. 2023, Brooks Stephens et al. 2023), loneliness (Chang et al. 2017), and emotion-related difficulties (Shapero et al. 2019, Kassing et al. 2022).

A total of 61.531 individuals were included in the analysis, with the minimum and maximum sample sizes being 96 and 31.270, respectively (excluding the national surveys). In addition, there were two national health surveys that yielded relatively high sample sizes (e.g., Lee et al. 2017, Wang and Wu 2021), which were 6.055 and 1.945, respectively. Most of the studies ($n = 39$, 95.12%) were conducted with emerging adults or young adults aged between 18 and 30. There were two studies that utilized mixed samples (e.g., adolescents and young adults) (Abdullah et al. 2023, Park et al. 2023). To assess the severity of suicidal ideation and attempts, the most used instruments were the Beck Scale for Suicide Ideation (BSS) (Beck and Steer 1991), followed by the Suicidal Behavior Questionnaire-Revised (SBQ-R) (Osman et al. 2001) and the Columbia Suicide Severity Scale (CSSS) (Posner et al. 2011). Most of the studies targeted suicidal ideation as the outcome variable, and there is a relative scarcity of studies aiming to explain suicidal attempts.

Table 1. Summary of the included studies that review protective factors against youth suicide ideation/attempts

Number	Author	Protective factor	Country	Sample	Sampling Method	Instruments Used
1	Linda et al. 2012	Problem solving skills*	USA	College students (18-30), n = 96 (76.04% women), M = 19, SD = 2.2	Convenience	Beck Scale for Suicide Ideation + dichotomized question
2	Shepherd et al. 2023	Social connection, meaning in life	USA	Emerging adults (18-26), n = 265 (77% cisgender women), M = 19.68, SD = 1.61	Convenience	Beck Scale for Suicide Ideation
3	Katz et al. 2023	Positive identity* (authenticity, intimacy, community)	USA	Young adults (18-29), n = 396 (42.2% cisgender women), M = 23.44, SD = 3.15	Convenience	Beck Scale for Suicide Ideation
4	Scardera et al. 2020	Perceived social support*	Canada	Emerging adults (18-29), n = 1174 (48.89% female)	Convenience	Dichotomized question
5	Lee et al. 2017	Physical activity*	South Korea	Young adults + adults (20-39), n = 6055 (45.1% female), M = 30.06, SD = 5.5	Convenience	Dichotomized question
6	Hussein and Yousef 2024	Perceived social support*	Egypt	College students, n = 745 (58.1% female), M = 20.1, SD = 1.4	Convenience	Suicide Ideation Scale (SIS)
7	Nowakowska-Domagala et al. 2023	Chronotype (morningness)*	Poland	College students (18-48), n = 313 (66.5% women), M = 21.99, SD = 3.21)	Convenience	The Suicidal Behavior Questionnaire-Revised
8	Duprey et al. 2019	Self-esteem*, emotion regulation*	USA	Emerging adults (18-25), n = 167, (55.8% female), M = 21.17, SD = N/A	Convenience	Suicide Ideation Scale (SIS)
9	Chesin and Cascardi 2019	Mindfulness*	USA	Emerging adults (18-29), n = 780 (63.5% female), M= 19.7, SD =2.9	Convenience	Dichotomized question
10	Kassing et al. 2022	Comfort expressing emotions*	USA	College students, n = 449, (73.1% female), M = 20.5)	Convenience	Adult Suicide Ideation Questionnaire (ASIQ)
11	Zapata Roblyer and Zambrano Betancourth 2020	Perceived social support*	USA	College students, n = 424 (63% female), M = 20.8, SD = 2.5)	Convenience	The Suicidal Behavior Questionnaire-Revised
12	Choi et al. 2021	Resilience*, self-esteem*	South Korea	Young adults, n = 31,270 (31.8% female), M = 23.64, SD = 3.96)	Convenience	Korea Advanced Institute of Science and Technology (KAIST) Scale
13	Brooks et al. 2021	Self-acceptance*	USA	Young adults (18-25), n = 123, (62.5% female), M = 20.91, SD = 2.45)	Convenience	Adult Suicide Ideation Questionnaire (ASIQ)

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14	Dong and Zhao 2022	Perceived family support*	China	College students (17-23), n = 469 (71.81 women), M = 20, SD = 1.18	Convenience	Beck Scale for Suicide Ideation
15	Hong et al. 2024	Ethnic identity, purpose in life*	USA	Undergraduate students, n = 289, 61.2% women), M = 20.47, SD = 1.83)	Convenience	Beck Scale for Suicide Ideation
16	Dugas et al. 2012	Participation in sports teams*, self-esteem*	Canada	Young adults (18-24), n = 723, (M = 20.40, SD = 0.7)	Convenience	Dichotomized question (SI)
17	Hollingsworth and Polanco-Roman 2022	Strong ethnic identity*	USA	College students, n = 106, (46.2% female), M = 20.63	Convenience	The Hopelessness Depression Symptom Questionnaire-Suicidality Subscale
18	Rosario-Williams et al. 2021	Decentering*	USA	College students (18-27), n = 125 (79% women), N/A	Convenience	Beck Scale for Suicide Ideation
19	Ryan et al. 2010	Family acceptance*, perceived social support, self-esteem	USA	Young adults (21-25), n = 245 (45.5% cisgender women), N/A	Convenience	Dichotomized question (SI)
20	Parra et al. 2021	Family belongingness*	Netherlands	Emerging adults (18-29), n = 675 (64.1% cisgender female), M = 21.9, SD = 3.20	Convenience	Dichotomized question (SI)
21	Hirsch et al. 2011	Self-forgiveness*	USA	College students, n = 158 (78% female), M = 19.58, SD = 3.16	Convenience	The Suicidal Behavior Questionnaire-Revised
22	Abdullah et al. 2023	Religiosity*	Pakistan	Adolescents & Young adults (12-26), n = 747 (0% female), M = 18.8, SD = 4.1	Convenience	Beck Scale for Suicide Ideation
23	Brooks Stephens et al. 2023	Mindfulness*	USA	Emerging adults (18 years or older), n = 332, M = 22.2, SD = 5.5)	Convenience	Beck Scale for Suicide Ideation-5 (BSS-5)
24	Chang et al. 2017	Positive future cognitions*	Taiwan	College students (18-28), n = 228, (76.32% female), M = 19.69, SD = 1.38	Convenience	Beck Depression Inventory + Frequency of Suicidal Ideation Inventory (FSII; Chang & Chang, 2016).
25	Brailovskaia et al. 2020	Positive mental health*	Germany	Young adults (18-41), n = 209 (72.2% female), M = 23.01, SD = 4.45	Convenience	The Suicidal Behavior Questionnaire-Revised

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Number	Author	Protective factor	Country	Sample	Sampling Method	Instruments Used
26	Horwitz et al. 2018	Coping*	USA	Emerging adults (13-25), n = 286 (59% female), M = 18, SD = 3.5	Convenience	The Columbia-Suicide Severity Survey
27	Qamar and Yasin 2023	Resilience*	Pakistan	Young adults + adults (18-40), n = 300 (56.3% female) N/A	Purposive	Columbia Suicide Screen (CSS)
28	Mason et al. 2023	Religiosity*	USA	Young adults (18-34), n = 451 (47.23% female), M = 24.97, SD = 4.26	Convenience	The Suicidal Behavior Questionnaire-Revised
29	Karska et al. 2024	Resilience*	Poland	Young adults (18-35), n = 1100 (51.4% female), M = 27.1, SD = 5.1	Convenience	MINI International Neropsychiatric Interview
30	Yu et al. 2021	Life satisfaction*, optimism*	USA	Youth (21-27), n = 2321, (55% female), M = 22.61, SD = .57	Convenience	World Mental Health Survey version of the World Health Organization Composite International Diagnostic Interview
31	Han et al. 2022	Cognitive flexibility*, self-efficacy expressing positive affect*	Australia	Young adults (18-25), n = 557, 84% female), M = 21.9, SD = 2.3	Convenience	Suicide Ideation Attributes Scale
32	Wang and Wu 2021	Religiosity*	USA	Young adults (18-25), n = 1945, (61.6% female), M = N/A	Convenience	Dichotomized question
33	Wilchek-Aviad and Cohen-Luck 2022	Purpose in life*	Israel	Young adults (18-28), n = 200 (77% female), M= 22.91, SD= 1.99)	Convenience	The Isreali Index of Potential Suicide
34	Lew et al. 2020	Meaning in life*	China	College students (18-27), n = 2049 (66% female), M = 19.79, SD = 1.39.	Convenience	The Suicidal Behavior Questionnaire-Revised
35	Yao et al. 2023	Resilience*	China	Young adults, n = 742 (60.11% female), M = 24.01, SD = 2.02)	Convenience	The Suicidal Behavior Questionnaire-Revised
36	Chang et al. 2019	Hope*	Taiwan	Young adults (18-32), n = 489 (51.12% female), M = 21.67, SD = 2.15	Convenience	Frequency of Suicidal Ideation Inventory
37	Howard et al. 2023	Sense of belongingness*	USA	Emerging adults (18-29), n = 703 (45.1% female), M = 22.61, SD = 3.30	Convenience	Dichotomized question

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38	Forster et al. 2019	Positive ethnic identity*	USA	Young adults (18-29), n = 1094 (61% female), M = 26.4, SD = 0.37	Convenience	Dichotomized question
39	Park et al. 2023	Perceived social support* (parents, teacher)	USA	High-school students (14-18), n = 3531, M = 15.7, SD = 1.2	Convenience	The Columbia-Suicide Severity Survey
40	Shapero et al. 2019	Resilience*	USA	Young adults (18-25), n = 1703, (71% female), M= 19.56, SD= 1.29	Convenience	The Suicidal Behavior Questionnaire-Revised
41	Duenas et al. 2020	Perceived social support*, religiosity*	Spain	Young adults (18-29), n = 409 (60.64% women), M = 21.4, SD = 2.04	Convenience	Beck Scale for Suicide Ideation

* represents statistically significant protective factors

Across the studies included in this review, considerable variability was observed in the measurement tools used to assess suicidal thoughts and behaviors, and related protective factors. As mentioned, the widely employed instruments to assess suicidal thoughts and behaviors were BSS, SBQ-R, and CSSS. The BSS demonstrates high internal consistency ($\alpha = .89$) and strong concurrent validity with clinician ratings and other suicide measures (Beck and Steer 1991, Beck et al. 1997). The SBQ-R has demonstrated acceptable internal consistency (α range = .76-.80) and strong convergent validity with depression and hopelessness measures. Lastly, the CSSS has shown high internal consistency (α range = .73-.95) and predictive validity for future suicide attempts (Posner et al. 2011). Their widespread validation across diverse populations, including youth, enhances their utility in both clinical and research settings. Moreover, religiosity was assessed using different parameters, including the degree of religious commitment, attending religious services, degree of religious belief, and importance of God in one's life. On one hand, this heterogeneity in measurement approaches reflects the conceptual diversity in the field, but on the other hand, it implies challenges for synthesizing findings across studies.

Protective Factors

Table 1 presents the author's full names, the protective factors that demonstrated significant inverse relationships with suicidal ideation and attempts, countries where the studies were conducted, sample characteristics, sampling methods, and instruments used to measure suicidal thoughts and attempts. Of 41 cross-sectional studies, perceived social support (n = 8) was the most recurrent protective factor. Following that, resilience (n = 5), religiosity (n = 4), self-esteem (n = 4), and meaning/purpose in life (n = 4) resulted in statistically significant associations. Other protective factors against suicidal thoughts and attempts among youth, although reported less frequently, included problem-solving skills (Linda et al. 2012), positive identity (Katz et al. 2023), physical activity (Lee et al. 2017), chronotype/morningness (Nowakowska-Domagata et al. 2023), self-esteem and emotion regulation (Duprey et al. 2019), mindfulness (Chesin and Cascardi 2019), self-acceptance (Brooks et al. 2021), cognitive decentering (Rosario-Williams et al. 2021), comfort expressing emotions (Kassing et al. 2022), having a strong ethnic identity (Hollingsworth and Polanco-Roman 2022), positive future cognitions (Chang et al. 2017), positive mental health (Brailovskaia et al. 2020), coping (Horwitz et al. 2018), life satisfaction and optimism (Yu et al. 2021), cognitive flexibility (Han et al. 2022) and hope (Chang et al. 2019).

Perceived Social Support

In this review, perceived social support emerged as a statistically significant protective factor against suicide risk among youth in 8/8 studies examined (Ryan et al. 2010, Duenas et al. 2020, Scardera et al. 2020, Zapata Roblyer and Zambrano Betancourth 2020, Parra et al. 2021, Dong and Zhao 2022, Park et al. 2023,

Hussein and Yousef, 2024). Among the selected studies, the largest sample size ($n = 3531$) belonged to the study conducted by Park et al. (2023), where they investigated the protective role of perceived parent and teacher support in the relationship between bullying and suicidal ideation. Scardera et al. (2020) found that perceived social support remained a significant protective factor against suicidal ideation and attempts, even after controlling for socioeconomic status, family structure, and mental health problems such as depression and anxiety. Some studies pointed out the superiority of family support over other sources of social support. For instance, Dong and Zhao (2022) concluded that the unique presence of family support, but not the support from friends or significant others, protects college students against suicidal ideation. Evidence indicated that perceived social support was found to be protective in the relationship between crime victimization (Zapata Roblyer and Zambrano Betancourth 2020), negative automatic thoughts (Dong and Zhao 2022), entrapment (Parra et al. 2021), and suicidal ideation. Taken together, social support can also function as a buffering factor, as it has been shown to moderate and mediate the relationship between risk factors and suicidal thoughts and behaviors.

Resilience

Resilience, often characterized by positive adjustment, is defined as an adaptive response to stress or trauma (Luthar et al. 2000). Within the scope of this study, resilience was found to be a protective factor, yielding statistically significant negative effects on suicidal ideation in 5/5 studies included (Shapero et al. 2019, Choi et al. 2021, Qamar and Yasin 2023, Yao et al. 2023, Karska et al. 2024). 'Suicide resilience' refers to an individual's capacity to maintain psychological and physical functioning in the presence of suicide risk (Sher et al. 2020). In this study, resilience was found to be protective against depression (Qamar and Yasin 2023), psychotic experiences (Karska et al. 2024), childhood trauma (Yao et al. 2023), and emotional reactivity (Shapero et al. 2019). Therefore, the findings aligned with the buffering hypothesis supported by Johnson et al. (2011), indicating that resilience protects individuals in the face of adverse life events, acting as a moderator between risk factors and suicidal behavior. The largest sample size ($n = 31,270$) belonged to Choi et al.'s (2021) study conducted in South Korea, and the results indicated that resilience (also self-esteem) was a significant protective factor after including depression and anxiety for young adults aged between 18 and 34.

Religiosity

Results showed that 4/4 studies found religiosity to be a statistically significant protective factor against suicidal ideation and attempts (Duenas et al. 2020, Wang and Wu 2021, Abdullah et al. 2023, Mason et al. 2023). Religiosity is a multifaceted construct, and controversy over the contours of religiosity has been a subject of interest. In studies included in this review, it was observed that religiosity was measured through several means, such as religious commitment (Abdullah et al. 2023), attending religious activities (Wang and Wu 2021), degree of religiosity, and the importance of God in one's life (Duenas et al. 2020). For instance, Mason et al. (2023) found that religious commitment, attendance to religious services, and church-based social support protect individuals against suicidal ideation. In a similar vein, Abdullah et al. (2023) concluded that higher levels of religious commitment protect individuals against suicidal ideation driven by impulsivity, indicating its buffering role in youth suicide. The largest sample size ($n = 1945$) belonged to the study conducted by Wang and Wu (2021), which indicated that the frequency of attending religious services was a significant and negative predictor of suicidal ideation for black males who were up to two times close to the poverty line.

Self-Esteem

Higher levels of self-esteem were identified as a protective factor in 3/4 of studies (Ryan et al. 2010, Duprey et al. 2019, Choi et al. 2021). Duprey et al. (2019) found that while childhood maltreatment increases the odds of having suicidal ideation, low levels of self-esteem reinforce this relationship for emerging adults with low levels of socioeconomic status, pointing out the buffering effect of self-esteem on suicidal thoughts. The largest sample size ($n = 31,720$) belonged to Choi et al.'s (2021) study, where the data were collected from four research centers during a 1-year period. In this study, self-esteem (also resilience) was a significant negative predictor of suicidal ideation in the presence of depression and anxiety. Ryan et al.

(2010) revealed that self-esteem is a protective factor against suicidal thoughts and behaviors for LGBT young adults. However, Dugas et al. (2012) found that self-esteem did not significantly predict suicidal ideation among middle and high school students in grades 7 through 11.

Meaning/Purpose in Life

Meaning or purpose in life was found to be a protective factor in 3/4 studies included (Lew et al. 2020, Wilchek-Aviad and Cohen-Louck 2022, Hong et al. 2024). Wilchek-Aviad and Cohen-Louck (2022) found that purpose in life mediated the relationship between internal locus of control and suicidal ideation, and that as age increases, purpose in life becomes less tangible, putting individuals at a higher risk for suicide. Hong et al. (2024) found that purpose in life moderated the relationship between perceived racial discrimination and suicidal ideation, with the impact of discrimination on suicidal thoughts being stronger among individuals with a lower sense of purpose. Among eligible studies investigating meaning in life, the largest sample size belonged to Lew et al.'s (2020) study ($n = 2,074$), showing that meaning in life and search for meaning mediated the relationship between hopelessness and suicidal ideation, suggesting their potential buffering roles in suicidal ideation. However, in Shepherd et al.'s (2023) study, purpose in life did not significantly predict suicidal ideation. In sum, a sense of meaning/purpose in life not only emerged as a protective factor but also demonstrated a buffering effect by weakening the association between risk factors and suicidal thoughts and behaviors.

Discussion

The purpose of this systematic review was to investigate the existing evidence on the factors that protect young individuals against suicidal ideation and attempts. The findings highlighted perceived social support as the most robust protective factor against suicidal ideation and attempts, with support from family, friends, and significant other contributing to this protective effect. In total, 41 cross-sectional studies reported various protective factors against suicidal thoughts among youth, including perceived social support, resilience, religiosity, self-esteem, and meaning/purpose in life, changing by domain and strength. In this review, a total of 29 protective factors against suicidal ideation and attempts were reported based on research conducted within almost five decades (1980-2024). Additionally, most of the protective factors identified in this review function as buffering factors against various risk factors, as many operate through moderation or mediation processes. Although some degree of heterogeneity exists among the studies selected, some inferences can be made based on the results.

The results indicated that, along with contextual factors including religiosity and perceived social support, psychological factors such as higher levels of resilience, self-esteem, and meaning/purpose in life seemed to be the most prominent protective factors against suicidal thoughts and attempts among youth. In the context of Türkiye, similar protective factors have been identified in relation to youth suicidal ideation and behaviors, including perceived social support, self-esteem, psychological flexibility, and religiosity (Eskin et al. 2007, Türk et al. 2024a, 2024b). These findings indicate that prioritizing these protective factors may be valuable in designing interventions specifically tailored for youth. In addition, some protective factors, such as life satisfaction, hope, and cognitive decentering, were examined in only a few studies (e.g., fewer than three), while others, including easy access to and positive attitudes towards mental health services (Holman and Williams 2022), were not addressed in the studies reviewed. Therefore, the results should be interpreted with caution, as it is not possible to draw generalizable conclusions about their prominence in suicide prevention. For this reason, the conceptual understanding of protective factors against suicide among youth still requires additional refinement.

Previous research on suicide has primarily focused on risk factors, which has limited efforts to advance a more comprehensive understanding of the issue. In this respect, it was suggested that an integrative approach should be adopted where both risk and protective factors are included together (Gould et al. 2003, Sher 2012). Protective factors work by either decreasing the effect of a particular risk factor or by making individuals more resilient against several risk factors (Johnson et al. 2011, Stone 2017). Therefore, identifying specific protective factors is essential for gaining deeper insight into the resources, coping strategies, and strengths individuals draw upon when confronting suicidal urges. This study, in particular,

identifies the most relevant protective factors among youth. Given the complex nature of youth suicide, relying solely on either risk or protective factors may be insufficient to effectively address this critical global health concern.

Regarding measurement issues, the use of researcher-developed, close-ended dichotomous questions (e.g., In the past 12 months, did you ever seriously think of attempting suicide?) remains common in addressing suicidal thoughts and attempts. However, this method was argued to lack the nuanced detail (e.g., frequency, severity, and recency) and to lead to misclassification (Hom et al. 2016). Also, it was found that the Beck Scale for Suicide Ideation (Beck and Steer 1991), the Suicidal Behavior Questionnaire-Revised (Osman et al. 2001), and the Columbia Suicide Severity Scale (Posner et al. 2011) were the most commonly used instruments to measure suicidal ideation. In terms of participants' gender, studies varied greatly (0% female to 84% female), but it was observed that most of the samples consisted mainly of women. Using the term 'gender paradox in suicide' (Canetto and Sakinofsky 1998), it has been suggested that while suicidal ideation and non-fatal suicidal behaviors are more common among women, men are more likely to engage in fatal suicidal actions. Therefore, further systematic reviews or meta-analyses could delve into the aspects of how or whether gender affects the strength or magnitude of particular protective factors. In addition, nearly all studies (except one) used convenience sampling, a non-random method known to limit generalizability. Future systematic reviews or meta-analyses could specifically examine studies employing random sampling methods to strengthen the evidence base.

Empirical evidence suggests that different dimensions of religiosity have a protective role against suicidal ideation and attempts. In this study, in all 4/4 articles identified, religiosity was found to be a protective factor against suicidal ideation. However, in a recent meta-analysis, it was suggested that religiosity may primarily protect against suicidal attempts rather than ideation (Lawrence et al. 2016). This discrepancy underscores the need for further research to clarify the specific pathways through which religiosity may influence different aspects of suicide. As mentioned, across the studies reviewed, religiosity was measured through different means, raising questions about which specific aspect of religiosity (e.g., attendance, beliefs, personal importance) most strongly contributes to its protective role against suicide. Therefore, it is important to consider these nuances when examining the association between religiosity and suicide risk. Also, it was suggested that the mechanism behind how religiosity protects individuals against suicidal ideation might be through social support received from the religious communities and congregation (Lawrence et al. 2016). The other possible explanation might be that individuals who perceive themselves as religious may hold stronger moral objections to suicide compared to those without religious affiliation (Dervic et al. 2004). Therefore, future qualitative research might offer deeper insights into the specific ways in which religiosity functions as a protective factor against suicide.

In this review, all identified protective factors were drawn from using non-clinical samples of young or emerging adults (i.e., 18-30 years old). Notably, aside from religious affiliation, no demographic variable consistently emerged as protective against suicide risk. Although evidence linking sociodemographic characteristics to suicide risk is moderate and somewhat inconsistent (Huang et al. 2017), these factors warrant consideration when interpreting the findings. Therefore, future research could examine specific protective factors across different developmental stages in youth, such as early, middle, and late adolescence, and consider intersections with variables such as gender, socioeconomic status, and cultural context to enhance the understanding of protective pathways in youth suicidality.

One prominent strength of this research is the broad search strategy followed. The search terms used were detailed and comprehensive (i.e., buffer*, protect*, resili*), ensuring thorough coverage of the relevant literature. Another strength is that no restrictions were put on sample size as a criterion. Thirdly, during data analysis, a thorough duplication check across seven databases was made by the researcher. Lastly, while the inclusion of studies from low, middle, and high-income countries ensured a degree of socioeconomic heterogeneity within the samples, an important consideration given the hypothesized role of socioeconomic status in suicidal thoughts and behaviors (Naher et al. 2020), studies from low and middle-income countries remained scarce.

Certain limitations are also worth mentioning. The first limitation is that only studies in English were included. Also, only published studies were considered for this review. While this approach might introduce a risk of publication bias, it also ensures that all included studies have met peer-reviewed quality standards. Another limitation was related to the representativeness of the studies included. For instance, there was a scarcity of studies conducted in low and middle-income countries, although it was argued that almost 80% of completed suicides occur in low- and middle-income countries (WHO 2021). Third, the use of cross-sectional and quantitative methods limits causal interpretations and prevents detailed exploration of how protective factors operate against suicidal thoughts and attempts.

Suicide is a growing concern, particularly among youth. This systematic review showed that few studies accounted for confounding variables, despite protective factors being interrelated, indicating an area for future attention. Moreover, the widespread use of the convenience sampling method limits generalizability, suggesting that future studies could benefit from employing more rigorous sampling methods to strengthen external validity and causal insights. As mentioned, based on the inclusion/exclusion criteria, studies using purely qualitative designs were excluded from this review. However, the absence of mixed methods studies in the identified literature was noteworthy. Previous studies have suggested that using mixed-method designs is optimal for capturing both the statistical associations and the in-depth contextual understanding of risk and protective factors in youth suicide (Hjemland and Knizek 2010), warranting further investigation to provide richer perspectives on quantitative findings (or vice versa) or on how protective factors operate.

Conclusion

Findings from this review underline the importance of leveraging identified protective factors in designing and implementing youth suicide prevention initiatives. Perceived social support consistently emerged as a protective factor, with family support demonstrating the strongest positive association against suicidal ideation and behaviors. Therefore, interventions aiming to enhance family connectedness and social support systems might be particularly impactful (Hou et al. 2022). Resilience was also identified as a protective factor, suggesting that programs focusing on strengthening coping skills and adaptive responses to stress may reduce suicide risk (Zhang et al. 2022). Although measurement approaches varied, religiosity appeared to serve as a protective factor, underlining the potential benefit of culturally sensitive approaches that align with youth's beliefs and values (Goldston et al. 2008). Additionally, fostering self-esteem and helping young people develop a sense of meaning and purpose in life have shown protective effects and could serve as important targets for prevention (Lew et al. 2020). School-based interventions have demonstrated effectiveness in reducing suicide risk (Wasserman et al. 2015), and the focus of such programs could be enriched by incorporating the protective factors identified in this review to enhance their impact. Taken together, these findings emphasize the need for comprehensive and multidimensional prevention strategies that address social, emotional, and existential domains to effectively reduce suicide risk among youth.

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