

Psychological Interventions for Higher Education Students in Europe: A Systematic Literature Review

Isabella Giulia Franzoi ^{*ID}, Maria Domenica Sauta ^{ID}, Francesca Barbagli, Cristiana Avale and Antonella Granieri ^{ID}

Department of Psychology, University of Turin, Via Verdi 10, 10124 Turin, Italy; mariadomenica.sauta@unito.it (M.D.S.); francesca.barbagli@edu.unito.it (F.B.); cristiana.avalle@unito.it (C.A.); antonella.granieri@unito.it (A.G.)

* Correspondence: isabellagiulia.franzoi@unito.it

Abstract: During tertiary education, students embark on a journey of role exploration and decision-making about their future, to define who they want to be in their adult lives. Psychological services for students may be needed to help students gain better awareness of their mental health. The purpose of this systematic literature review is to analyze psychological interventions for university students in Europe. The review was conducted per the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines. Studies were identified using the Scopus, Web of Science, PubMed, ProQuest Psychology Journals, PsycINFO, and PsycARTICLES databases. The results were classified into seven categories: counseling and group counseling (eight papers); psychodynamic interventions (six papers); cognitive-behavioral interventions (fifteen papers); other psychological interventions (eighteen papers); mindfulness (nine papers); online interventions (seventeen papers); and app and mobile interventions (ten papers). Student psychological services are becoming one of the most important sources of support for students, and the number of approaches offered is expanding. Our results suggest the need to further investigate and promote the provision of psychological care for university students, explore long-term treatment options, and invest in professionally trained staff.

Keywords: university students; university counseling center; psychotherapy; support; prevention



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1. Introduction

Emerging adulthood [1,2] is a transitional age between adolescence and adulthood. During this developmental phase of intense brain maturation, young people undertake a path of independent role exploration, during which they must make decisions about their future. Many young adults leave their family of origin to live in other homes and/or other cities, alone or with other people, often peers [3]. Emerging adults have new experiences, new relationships, and the opportunity to define who they want to be in their adult lives [4–6].

Frequently, this transitional period takes place during the years of higher education, which implies further tasks and demands [7–9]. Several studies [10–14] have shown that university students report higher levels of anxiety and depression, as well as lower levels of perceived health, and are at greater risk for poor mental health than, for example, their working peers [15] and the general population [16,17]. Thus, it is of fundamental importance to design and provide comprehensive psychological interventions to support emerging adults through this complex transition, with a specific focus on those in higher education [18–20].

In this context, psychological services for students seem fundamental to help them gain better awareness of their mental health and better knowledge of the personal resources needed to cope with critical events during the transition to adulthood [21–24]. Indeed, consulting services are offered by many universities worldwide to help students

to cope with academic challenges. Above all, offering students psychological services is an opportunity to address deeper psychological and mental health conditions, as well as stabilize psychopathology [25–27]. Untreated psychological problems can have negative consequences on academic performances, increase drop-out risk, and even lead to suicidal behavior, drug addiction, alcoholism, and other dependences [28–30]. Thus, student consulting services can support emerging adults who are experiencing academic difficulties and mental health prevention as well as psychological and psychotherapeutic interventions for students' psychological distress.

The first report on national trends in mental health service utilization from the Healthy Minds Study (HMS), a comprehensive study of mental health in college populations, provides the most comprehensive evidence to date regarding upward trends in mental health service utilization on U.S. campuses between 2007 and 2017. The study drew on 10 years of data from the HMS, an annual web-based survey with a sample comprising 155,026 students from 196 campuses. The data showed that mental health service utilization increased from 19% to 34% between 2007 and 2017. In 2019, more than 10% of the overall student population sought campus counselling services [23]. Unfortunately, a similar study on the whole European area is not available. Published data mainly refers to the U.K., where, between 2012 and 2017, higher education providers experienced significant increases in demand for counselling and disability services. In particular, 94% of universities report an increase in demand for counselling services, and up to 1 in 4 students are using, or waiting to use, counselling services [31].

The increasing demand for such services can be connected to the current increase in symptom severity among college counseling center patients [32–35] and the COVID-19 pandemic, which triggered fears and anxieties worldwide and an increase in the frequency and severity of mental health problems in the general population [36–39]. The pandemic has had a great impact on students' lives, mainly due to the closure of universities and the suspension of face-to-face classes [40]. The literature highlights that students quarantined at home have a high prevalence of depressive and traumatic symptoms, as well as higher levels of anxiety and suicidal ideation [41–44]. Levels of anxiety and depression spiked during the pandemic, especially among economically disadvantaged and under-represented groups [45]. In the European context, several studies investigated the psychological impact of COVID-19 on university students' mental health symptoms, including depression, anxiety, and general malaise [46–48]. Moreover, the pandemic and ensuing confinement expedited the emergence of post-traumatic stress symptoms, indicating the urgent need for timely and appropriate psychological interventions for university students [49].

Thus, it is necessary to review and analyze the psychological interventions offered to university students in Europe, identify the kind of interventions offered and their delivery mechanisms, and the key symptoms of students' mental health detected through these interventions.

In response to the increasing volume of research on the mental health and well-being of university students, there have been several attempts to collect information on psychological interventions offered to this population, particularly in the U.S. [50]. However, as far as we know, similar attempts have not yet been made in Europe. We therefore conducted a systematic literature review on the topic, focusing on higher education students in European tertiary education institutions.

2. Materials and Methods

2.1. Search Strategies

The systematic review was conducted per the PRISMA guidelines for the search, systematization, and report of systematic reviews [51]. Studies were identified by searching the following databases: Scopus, Web of Science, PubMed, ProQuest Psychology Journals, PsycINFO, and PsycARTICLES. We used a combination of the keywords ("university student*" OR "campus student*" OR "college student*") AND (psych*) AND (intervention* OR treatment* OR help OR support OR assistance) OR ("mental support" OR "psycho-

logical service*" OR "clinical intervention*" OR "psychotherapy" OR "group therapy" OR "group intervention" OR "emotional support" OR counseling OR counseling) AND (Albania OR Austria OR Belgium OR Bosnia OR Bulgaria OR Croatia OR Cyprus OR Czech AND Republic OR Denmark OR Estonia OR Finland OR France OR Germany OR Greece OR Hungary OR Iceland OR Ireland OR Italy OR Kosovo OR Latvia OR Lithuania OR Luxembourg OR Macedonia OR Malta OR Montenegro OR Netherlands OR Norway OR Poland OR Portugal OR Romania OR Serbia OR Slovakia OR Slovenia OR Spain OR Sweden OR Switzerland OR Turkey OR UK).

Since we were interested in identifying papers published throughout the European area, we included, in the research keywords, all countries listed in the European Tertiary Education Register (ETER) (eter-project.com, accessed on 2 May 2020), including the 28 member states of the European Union (EU) at the time of our search, candidate countries, and potential candidates, as well as other countries in the European geographical area, as long as they were featured in the ETER.

We used different search criteria for the different search fields available in the databases. Specifically, keywords connected to psychological interventions were searched as follows:

- (1) Title, abstract, and keywords for Scopus.
- (2) All fields for PubMed.
- (3) The topic for WoS.
- (4) Subject terms for the PsychINFO and PsycARTICLES databases.

Other keywords were searched by inputting them into all fields in every database considered. To collect the most recent data, we chose to include only journal articles published in the last decade (January 2010–April 2020). Moreover, since our research team does not have the ability to review papers in all European languages, for consistency we decided to include only those written in English, even if this risked missing some important results and impoverishing the number of research articles useful in corroborating the reported data.

2.2. Selection Criteria

The progressive exclusion was performed by three of the four authors of this paper (IGF, FB, and CMA), who read the title, abstract, and full text. In case of disagreement, the fourth author (AG) was consulted. The inclusion criteria were as follows:

1. The study was quantitative or qualitative original research.
2. The research study made explicit reference to psychological and psychotherapeutic interventions addressed to higher education students.
3. The research study was published within the given time interval (January 2010–April 2020).
4. The study was written in the English language only.

The exclusion criteria were:

1. The study did not report original results (reviews, letters, editorials, and comments).
2. Dissertations.
3. The study focused on mentoring programs.
4. The study focused on self-help interventions and peer education.

Any discrepancy concerning the inclusion/exclusion of articles was discussed among the four researchers until an agreement was reached. A list of excluded studies, including level and reasons of exclusion, was kept. The references to included articles were manually checked for any study not retrieved by the automatic literature search. The studies identified in this step underwent the same screening process as the papers retrieved by the database search. The entire procedure is displayed in Figure 1.

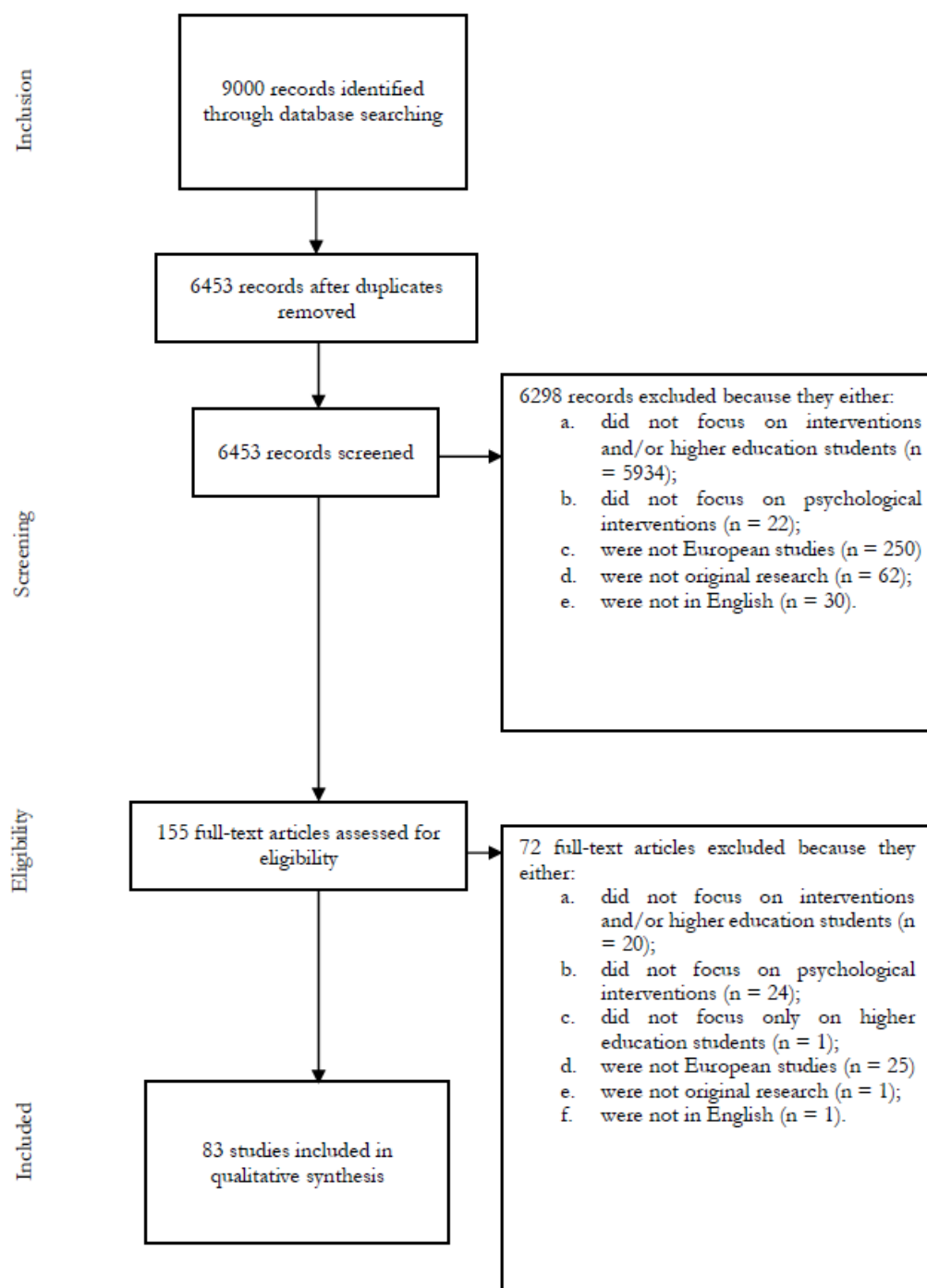


Figure 1. Flow of information through the different phases of the review process.

3. Results

Data analysis was conducted using a standardized data extraction form, and included (a) general details (authors, title, publication source, year of publication); (b) type of study; sample characteristics (e.g., age, gender, and country); (c) measures; and (d) results.

The electronic database search identified 9000 records. After duplicates were removed, 6453 articles remained. Of these, 6298 articles were excluded, based on title and abstract, because they did not focus on (a) interventions and/or higher education students ($n = 5934$); or (b) psychological interventions ($n = 22$); (c) were not European studies ($n = 250$); (d) were not original research ($n = 62$); or (e) were not in English ($n = 30$). Another 72 articles were excluded based on full-text evaluation because they did not focus on (a) interventions and/or

higher education students ($n = 20$); (b) psychological interventions ($n = 24$); (c) higher education students ($n = 1$); (d) were not European studies ($n = 25$); (e) were not original research ($n = 1$); or (f) were not in English ($n = 1$). The 83 articles resulting from electronic and manual literature searches underwent data extraction and qualitative analysis. Articles were classified into seven categories:

1. Section 3.1 Counseling and Group Counseling (eight papers).
2. Section 3.2 Psychodynamic (six papers).
3. Section 3.3 Cognitive–Behavioral (fifteen papers).
4. Section 3.4 Other Psychological (eighteen papers).
5. Section 3.5 Mindfulness (nine papers).
6. Section 3.6 Online (seventeen papers).
7. Section 3.7 App and Mobile (ten papers).

Table S1 summarizes the results.

3.1. Counseling and Group Counseling

Hofmann and colleagues [52] suggested that integrative counseling is effective in reducing psychopathology and distress as well as in restoring satisfaction with life and studies. Moreover, a study conducted by Strepparava and colleagues [53] explored the effectiveness of cognitive-relational intervention administered in an Italian university counseling service, with a sample of 45 undergraduate students. Their results showed a significant pre- and post-intervention reduction in self-reported psychopathological symptoms, as well as in general levels of distress. The effectiveness of counseling programs was confirmed by McKenzie and colleagues [54] in students with self-reported academic issues. Counseling was found to result in a clinically significant change for 40% of students reporting academic issues. Biasi and colleagues [25] explored the effectiveness of counseling intervention in enhancing students' academic success. Students were randomly assigned to either an experimental group (66 students) or a waitlist comparison group (44 students). The intervention led to a statistically significant decrease in internalizing and externalizing problems, distress symptoms, and relationship difficulties. Compared with the control group, students who underwent counseling exhibited a significant recovery concerning progress with their studies. Similarly, Østergård and colleagues [55] found that the Danish Student Counseling Service was effective in decreasing symptomatic distress in highly distressed student clients.

Counseling also seemed to be effective in improving mentalization in university students. For example, Esposito and colleagues [56] explored two group counseling interventions aimed at promoting mentalization in underachieving university students and found improvements in both mentalization and academic performance. Maselli and colleagues [57] compared students randomly assigned to three intervention groups. These included (a) individual counseling sessions (based on the social cognitive theory and the trans-theoretical model of behavior change) via videoconferencing calls; (b) wearable physical activity (PA) monitors designed to motivate PA; and (c) no intervention. Students in the individual counseling group increased self-reported energy expenditure between T0 and T1, and maintained this improvement at T2. However, no significant differences were found in the group of students who used the PA monitors and in the control group. Finally, Vassilopoulous and Brouzos [58] investigated a person-centered group counseling intervention in a setting in which students could experience an accepting and safe environment, and where they could risk being themselves and talking about their concerns without fear of ridicule or rejection. As a result, students reported feeling better about themselves and about establishing more healthy relationships with family members and other important people in their lives.

3.2. Psychodynamic Interventions

The effectiveness of psychodynamic interventions on university students was investigated in six Italian studies. Vescovelli and colleagues [59] investigated and compared

the feasibility and clinical utility of cognitive–behavioral and psychodynamic psychotherapy in improving students’ mental health using self-report and observer-report measures. In post-treatment, all students experienced improvements in well-being and a decrease in distress, regardless of the type of psychotherapy they received. This improvement emerged both in self-report measures and in clinicians’ evaluations. Similarly, Monti and colleagues [60] compared the effectiveness of cognitive–behavioral therapy (CBT) and psychodynamic therapy (PDT) for students’ anxiety, and found lower levels of distress at the end of treatment regardless of the type of intervention. Monti and colleagues [61] evaluated the effectiveness of psychodynamic psychotherapy in 226 students by assessing their distress before and after the treatment. Specifically, significant improvements were observed in depression and anxiety symptoms. Another study, conducted by Monti and colleagues [62], evaluated the short-term effectiveness of psychodynamic psychotherapy through a single group longitudinal study including a 6 month follow-up. Compared to pre-treatment results, post-therapy and six-month follow-up results showed significant improvements in subjects’ mental states. Furthermore, no significant differences were observed between the end of psychotherapy and the follow-up. Likewise, Cerutti and colleagues [63] explored the effectiveness of a brief psychodynamic intervention. They found that students who dropped out at the follow-up had slightly higher baseline scores concerning thoughts, intrusive feelings, and rule-breaking behavior, especially aggressive behavior. Moreover, students reporting higher somatic complaints, depressive symptoms, and withdrawal at T1 showed a steeper decrease (as measured by their scores) in these symptoms at the follow-up. Concerning a group seeking psychodynamic consultation, Amodeo and colleagues [64] found that a six-session intervention helped final-year undergraduates in clinical psychology courses feel more capable of managing their lives and more open to new experiences. The intervention also encouraged them to experience their relationships as more positive and satisfying, to believe that their life was meaningful, and to achieve greater self-acceptance. Group psychodynamic intervention also reinforced students’ educational choices.

3.3. Cognitive–Behavioral Interventions

Many articles focused on cognitive–behavioral individual or group psychotherapy (CBT). Rozental and colleagues [65] explored the effects of 8 weeks of self-guided CBT via the internet (ICBT) vs. 8 weeks of group CBT in reducing students’ procrastination behaviors. Their results showed large within-group effects on procrastination behaviors, and small to moderate benefits for depression, anxiety, and well-being. In total, 33.7% of participants showed symptoms of improvement post-treatment, and 46.7% at the follow-up. No differences between interventions were observed after the treatment period. However, participants in the CBT group continued or maintained their improvement at the follow-up, while participants in self-guided ICBT showed some signs of deterioration. Likewise, Bernhardsdottir and colleagues [66] compared the scores of a group of students who received four sessions of cognitive–behavioral group therapy (delivered by two advanced practice psychiatric nurses) with the scores of subjects in a control group. They found that students in the intervention group experienced significantly lower levels of depression and anxiety compared to the students in the control group at post-test.

Reiss and colleagues [67] explored group treatment for test anxiety using cognitive–behavioral therapy, including relaxation techniques (CBT + R), cognitive–behavioral therapy, including imagery rescripting (CBT + ImRs), and moderated self-help (SH). Each intervention was comprised of 3 h weekly group sessions over 5 weeks. Subjects’ in all treatment groups self-reported that their anxiety in stressful and judgmental social situations decreased after treatment. Another study, conducted by Reiss and colleagues [68], evaluated an intervention program comprising elements of cognitive–behavioral treatments and skill-focused techniques, additionally supplemented by relaxation techniques. The randomized controlled design was comprised of three groups that received test anxiety treatment in 3 h weekly sessions over 5 weeks. The results revealed a significant reduction

of test anxiety from baseline to a 6 month follow-up in all three treatment groups. The trial conducted by Vázquez and colleagues [69] compared the results of a group relaxation training (RT) intervention with a cognitive-behavioral therapy (CBT) intervention aimed at alleviating depression in university students with severe depressive symptoms. Both programs were administered to groups of five or six participants in eight 90 min weekly sessions. The intervention type had no significant effect on either depression or anxiety. Moreover, anxiety and depression were lower at the follow-up compared to pre-intervention scores. In particular, anxiety symptoms were significantly improved by both interventions at the 3 month follow-up, and by the CBT intervention only at the six month follow-up. However, in the medium term (three to six months), RT produced similar reductions in depressive and anxiety symptoms as CBT.

Thorgeirsdottir and colleagues [70] explored the differences in group climate development in brief cognitive-behavioral group therapy (CBGT) and brief group psychotherapy (GP) for students with a primary diagnosis of social anxiety disorder (SAD), who were randomly assigned to each of the two treatment conditions. Each intervention consisted of eight 2 h weekly sessions. Results showed that, throughout the sessions, engagement increased, avoidance decreased, and conflict was low. There was less conflict in the CBGT group compared with the GPT group. Bernhardsdottir and colleagues [71] described the experience of a four-session cognitive-behavioral group therapy focused on distress symptoms in female university students. Participants reported positive outcomes, especially in balanced thinking, self-confidence, and an improvement in deep reflection skills. Koutra and colleagues [29] investigated the effect of a group psychological counseling program on university students' anxiety, depression, and self-esteem. The intervention was based on cognitive-behavioral group therapy (CBGT) and included cognitive and behavioral techniques in eight two-hour weekly sessions. Results indicated that the program was effective in significantly decreasing participants' state and trait anxiety and depressive symptoms, as well as in increasing their self-esteem.

Martín-Pérez and colleagues [72] showed that brief group-delivered motivational intervention (MI) is as effective as brief group-delivered CBT in reducing alcohol use among college students. Students with risky alcohol use were assigned to two groups and received three sessions of brief group-delivered MI or CBT (bMI/bCBT). Alcohol use decreased in both groups at the 3 and 6 month measurement points compared to baseline. Thorisdottir and colleagues [73] examined sudden gains (SGs; large symptom improvements between adjacent treatment sessions) and their association with treatment outcomes for social anxiety disorder (SAD) in a randomized controlled trial comparing cognitive-behavioral group therapy with group psychotherapy. The results indicate that SGs appeared at similar rates across both treatments, but were associated with greater improvements at post-treatment and follow-up in group psychotherapy (GPT) compared to cognitive-behavioral group therapy (CBGT). Marrero and colleagues [74] designed a positive intervention combined with cognitive-behavioral therapy to enhance subjective and psychological well-being and tested it using a convenience sample (intervention group) and a no-treatment wait-list control group. The intervention group reported greater social support after the treatment period than the wait-list control group. In the intervention group, within-group differences were found for happiness, self-acceptance, positive relations with others, optimism, and self-esteem. CBT proved to also be effective in reducing stress.

Terp and colleagues [75] evaluated a 10 week CBT-based stress management program and found a positive effect on the intervention group compared to a control group. Students' perceived stress management competency, self-efficacy, and self-esteem were higher 1 year after the intervention. Larsson and colleagues [76] compared the efficacy of cognitive restructuring and cognitive defusion techniques in coping with a personally relevant negative thought. The findings indicated that subjects in the cognitive defusion techniques group had lowered believability, increased comfort and willingness to have the target thought, and increased positive affect more frequently than the subjects in the control and cognitive restructuring groups. Within groups, cognitive restructuring subjects

also made significant gains in target thought discomfort, negativity, and “willingness to have” [76] in the same direction as defusion, but the subjects in the no-instruction control did not. Negative thought frequency decreased in the defusion group, remained the same in the restructuring group, and increased in the no-instruction control group. Van der Oord and colleagues [77] tested the effectiveness of a six-session individual cognitive-behavioral planning intervention for college students with attention-deficit/hyperactivity disorder (ADHD). Specific treatment effects were found only for inattention. Finally, one study focused on students with dermatologic issues. Schuck and colleagues [78] explored the effectiveness of a four-session cognitive-behavioral treatment on college students suffering from pathological skin picking. Participants in the treatment condition showed a significantly larger reduction in all measured variables compared to the waiting-list condition. Treatment effects were maintained at follow-up.

3.4. Other Psychological Interventions

Several of the articles we reviewed did not focus on either psychodynamic or cognitive-behavioral interventions. Biolcati and colleagues [79] assessed the therapeutic efficacy of analytical psychodrama groups for college students with psychological problems. Results demonstrated the efficacy of a 40 week session intervention in terms of symptom decrease and improvement of patients’ well-being. After the treatment, patients showed a statistically significant reduction in clinical outcome scores compared with pre-treatment scores. Ouweneel and colleagues [80] examined the potential of positive psychological interventions (gratitude intervention vs. kindness intervention) to enhance study-related positive emotions and academic engagement, and reduce study-related negative emotions. The results revealed that the gratitude intervention had a significant positive effect on daily positive emotions only, while the kindness intervention had a positive influence on both positive emotions and academic engagement, though not in the long run. McCarthy and colleagues [81] focused on coping skills and used a coping with stressful events intervention on first-year undergraduate nursing and midwifery students, with good effect. Victor and colleagues [82] evaluated the personal model of resilience (PMR) intervention and found that compared with the control group, the PMR group showed a significant decrease in distress and significant improvements in protective factors and quality of life.

Krispenz and Dickhäuser [83] described an inquiry-based short intervention focused on individual worries. After the intervention (2 days later), participants demonstrated significantly lower test anxiety than participants from the pooled control group. Rose and colleagues [84] evaluated the feasibility and acceptability of a six-session intervention based on compassion-focused therapy to reduce self-criticism. Twenty-three participants with high levels of self-criticism received six individual weekly treatment sessions and a 2 month follow-up appointment. Results showed statistically significant improvements between pre and post-intervention for self-criticism, functional impairment, mood, self-esteem, and maladaptive perfectionism, with medium to large effect sizes at both post-intervention and follow-up. Gains were maintained or increased between post-treatment and two-month follow-up. Binder and colleagues [85] investigated a three-session self-compassion course. Participants found that they were more supportive and friendlier toward themselves when things were difficult or painful, after having begun a process of treating themselves better in everyday life. As part of this process, they became more aware of how harshly they used to treat themselves in difficult situations. Many participants said that their experience of painful emotions changed because they found relief in the knowledge that suffering is part of the human condition, and thus were able to accept uncomfortable feelings. Additionally, participants felt more stable, peaceful, and better able to cope with the everyday pressures and challenges in their student and personal lives. Matteucci [86] evaluated the effectiveness of the attributional retraining (AR) technique aimed at restructuring college students’ dysfunctional causal explanations of poor performance and exploring whether achievement goals predicted the use of adaptive causal attributions. Results confirmed the effectiveness of AR treatment in restructuring self-defeating stable attributional expla-

nations and suggested that achievement goals are implicated in the adoption of adaptive causal dimensions. Marksteiner and colleagues [87] examined the effectiveness of a brief psychological intervention aimed at reducing social disparities in students' sense of belonging. The intervention consisted of a brief reading and writing exercise on how worries about belonging are common among freshmen and diminish over time. For students without a migration background, the intervention had lasting positive effects on belonging; for students with a migration background, the positive effect diminished over time; students in the intervention group experienced less fluctuation and lower levels of depression symptoms than in the control group.

Pinto and colleagues [88] explored the Career Self-Management Seminar and its effect on both undergraduate and postgraduate students. The results demonstrated a significant increase in cognitive, behavioral, and affective career exploration dimensions for both undergraduate and postgraduate students. Otermin-Cristeta and Hautzinger [89] developed a six-meeting intervention based on behavioral and cognitive techniques, paradox intervention, and psycho-education aimed at overcoming general procrastination in college students. The results showed a significant improvement immediately after the intervention. Three months later, the average score of procrastination was still significantly lower than the pretest scores, whereas the score of the control group remained unchanged. Likewise, a qualitative study [90] underlined that students in psychotherapy showed many positive changes in their psychological resources and studying ability. Ciucur [91] used a 12-session transactional analysis group psychotherapy program to assess improvements in psychology students' tolerance, psychological mindedness, emotional self-control, empathy, sociability, amicability, and self-satisfaction. Only self-satisfaction and psychological mindedness increased after the intervention.

Concerning alcohol use, Ostafin and Palfai [92] examined the efficacy of a single-session intervention designed to increase motivation to reduce alcohol consumption. Compared with the control group, those in the intervention condition showed higher readiness to change their drinking consumption at the end of the baseline session, but did not show decreased drinking quantity at follow-up. Likewise, McClatchey and colleagues [93] explored whether a brief alcohol intervention would be effective in reducing hazardous alcohol consumption. Participants assessed as higher risk drinkers were randomly assigned to receive a brief alcohol intervention or an information leaflet. Alcohol consumption and alcohol use disorders significantly decreased in both groups post-intervention, with no differences between the groups. Clarke and colleagues [94] compared the effects of a 10 min personalized feedback intervention (BPI) and an active control intervention on alcohol consumption, frequency of binge drinking, and readiness to change (RTC). In a two-week follow-up, subjects in both groups significantly reduced their alcohol consumption and frequency of binge drinking. However, there were no significant group differences in either of these measures.

Finally, two studies investigated interventions involving animals. Grajfoner and colleagues [95] investigated the effect of a short, 20 min dog-assisted intervention on students' well-being, mood, and anxiety. Participants in the experimental condition interacted with both the dogs and their handlers, whereas the control groups interacted with either the dog only or the handler only. Conditions in which a dog was present (i.e., dog/s with a handler or only a dog) led to significant improvements in mood and well-being, as well as a significant reduction in anxiety. Wood and colleagues [96] found a significant reduction in stress and blood pressure immediately after pet therapy.

3.5. Mindfulness

Research studies have explored the benefits of mindfulness for a variety of clinical and nonclinical populations with the result that there is a growing interest in the potential of mindfulness in higher education. Galante and colleagues [26] assessed whether mindfulness courses for university students would improve participants' resilience to stress. Their findings showed that mindfulness training, adapted for university students (mindfulness

skills for students), could be an effective component of a wider student mental health strategy. Lynch and colleagues [97] explored the effectiveness of the Mindfulness-Based Coping with University Life (MBCUL) intervention, an adaption of the mindfulness-based stress reduction (MBSR) intervention specifically targeted at university students. The results showed a significant decrease in anxiety, depression, and perceived stress in subjects in the MBCUL group compared to subjects in the control groups. Similarly, Ştefan and colleagues [98] investigated the effectiveness of a 6 week mindfulness-based stress reduction (MBSR) program on a sample of college students at risk for social anxiety. Results showed that MBSR led to significant reductions in social anxiety and perceived stress. In addition, significant post-intervention differences, in favor of the MBSR group compared to the waitlist control group, were found for self-compassion and acceptance, but not for positive reinterpretation. Another study on stress reduction in university students [99] found that students receiving a 7 week MBSR program increased their use of problem-focused coping compared to students in the control group. Moreover, students with high scores on neuroticism benefitted from the intervention in terms of reduced avoidance-focused coping and an increase in seeking social support compared to the students in the control group.

Gallego and colleagues [100] investigated whether mindfulness training could lead to significant changes in depression, anxiety, and stress. To test its efficacy, they compared it to a physical activity program using an experimental design in which subjects were allocated to a mindfulness intervention group, a physical education group, and a control group. The results indicated greater effects for the mindfulness group than for the physical education group and control group. Other studies investigated interventions including only some aspects of mindfulness. Shuai and colleagues [101] tested whether a brief training in one component of mindfulness (i.e., breath counting) would reduce drinkers' sensitivity to the effect of noise-related stress on subjective mood and alcohol-seeking behavior. Results showed that compared to the control group, breath counting improved subjective mood, attenuated the worsening of subjective mood produced by stress induction, and accelerated recovery from a stress-induced increase in alcohol-seeking behavior [102]. Haukaas and colleagues compared the effects of a three-session attention training technique (ATT) intervention with a three-session mindful self-compassion (MSC) intervention. More specifically, ATT is a 12 min auditory exercise aimed at strengthening attentional control and promoting external attention focus, whereas MSC uses guided meditation and exercises aimed at promoting self-compassion. Participants in both groups showed significant reductions in symptoms of anxiety and depression, accompanied by significant increases in mindfulness, self-compassion, and attention flexibility post-intervention. These results were maintained at the six-month follow-up. Improvement in attention flexibility was the only significant predictor of treatment response.

Finally, Recabarren and colleagues [103] investigated the short-term effects of a multidimensional stress prevention program on students' quality of life, psychological symptoms, and their resources for and resilience against stress. The intervention group participated in a multidimensional stress prevention program integrating mindfulness-based activities, cognitive and behavioral strategies, social skills, and emotional regulation exercises. Compared to the students in the control group, students in the intervention program showed a significant reduction in psychological symptoms, including anxiety, interpersonal problems, and symptoms of pain as well as a significant increase in quality of life, sense of coherence, and self-compassion. No significant results were found for symptoms of depression, social anxiety, self-efficacy, and social support.

3.6. Online Interventions

Universities are challenged to provide services that are easily accessible and cost-effective, including a broad range of psychological services—both preventative and therapeutic—for student populations. In recent years, online self-help interventions have increased due to easy accessibility and cost-effectiveness. Räsänen and colleagues [104] examined the effectiveness of online acceptance and commitment therapy (iACT) aimed

at enhancing the well-being of university students. The results showed that iACT participants had significantly higher gains in well-being, life satisfaction, and mindfulness skills than participants in the waiting list control condition (WLC). A study by Turner and colleagues [105] showed that self-reported stress and symptoms of depression were significantly reduced in iACT participants compared to subjects in the control group. A randomized controlled pilot trial conducted by Kvillemo and colleagues [106] explored the feasibility, usability, acceptability, and outcomes of an 8 week internet-based mindfulness training program. Participants were randomly assigned to either an intervention or an active control condition. There was no statistically significant stronger intervention effect for the mindfulness intervention compared to the active control intervention. However, those completing the mindfulness program reported high satisfaction with the program. Similarly, Epton and colleagues [107] assessed the efficacy of a theory-based online health behavior intervention among freshmen. The intervention showed a statistically significant effect on smoking status at the 6 month follow-up, with fewer smokers in the intervention group.

A study by Cameron and colleagues [108] indicated that online interventions had significant effects on subjects who had smoked at a university (self-report). Lindenberg and colleagues [109] examined an online forum that allows peer support among participants and chat sessions with an online counselor. Results showed that support could be matched to individual requirements by providing internet-delivered stepped-care modules that encouraged the user to seek support according to their personal preferences and needs. Richards and colleagues [110] examined the impact of an internet-delivered CBT intervention named Calming Anxiety. The results of both the treatment and waiting list groups displayed significant decreases in anxiety symptoms post-treatment, but there was no significant between-group effect. Significant within-group differences from pre to post-time points were observed for depression, as well as work and social functioning; between-group differences were also significant for depression and functioning. Likewise, Cook and colleagues [111] tested whether guided web-based rumination-focused cognitive behavioral therapy (i-RFCBT) would prevent the incidence of major depression, compared to usual care. The results indicated that guided i-RFCBT reduced the risk of depression compared to usual care, and participants with higher levels of baseline stress benefited most from the intervention. In addition, significant improvements in rumination, worry, and depressive symptoms were found in the short- to medium-term. Similarly, Sharry and colleagues [112] focused on an online, therapist-supported, CBT-based program for depression. Following the intervention, a statistically significant decrease in depressive symptomatology was observed.

The programs described in this paper highlight how online support can be tightly integrated with interactive online programs. Saleh and colleagues [113] examined the efficacy of a four-session internet-delivery stress management program based on cognitive-behavioral therapy. The results revealed significant effects of the intervention over time in the experimental group. Effects were also observed at the post-intervention and follow-up stages for self-esteem, perceived stress, satisfaction in studies, and the somatic symptoms of anxiety, insomnia, and severe depression. Contrarily, Horgan and colleagues' [114] exploration of an online peer support intervention for students experiencing depressive symptoms showed no statistically significant differences between pre and post-intervention. Kählke and colleagues [115] focused on social anxiety and evaluated the efficacy of an unguided nine-session internet- and mobile-based intervention (IMI), StudiCare SAD, for university students with social anxiety disorder (SAD). Results indicated moderate to large effect sizes in favor of the StudiCare SAD group compared to the waitlist control group. In addition, Bruijniks and colleagues [116] investigated whether four weekly sessions of online problem-solving therapy (PST) could improve memory for the content of therapy sessions, which might increase the effects of psychological interventions. Results showed that retrieval led to an overall higher recall, but this difference disappeared when controlling for the time spent on retrieval versus rehearsal. Retrieval did not lead to better problem-solving skills, or less distress, compared to rehearsal.

Studies have also focused on unhealthy alcohol use, a cause of concern for educational institutions, particularly since help-seeking behavior for alcohol use is low among students. Canale and colleagues [117] described the development and pilot testing of computer-delivered intervention for drinking behavior, which aimed to prevent alcohol abuse (and its adverse consequences) among university students in general and baseline hazardous drinkers. For hazardous drinkers, at baseline, the intervention showed a significant decrease in frequency and quantity of alcohol use at follow-up, while no difference was observed between intervention conditions for non-hazardous drinkers at baseline. Likewise, Bewick et al. [118] evaluated the effectiveness of a web-based intervention for students' alcohol use, and found that delivering electronic personalized feedback intervention to students via the internet can be effective in reducing weekly alcohol consumption. Bewick et al. [119] also evaluated the effectiveness of Unitcheck, a web-based intervention providing instant personalized feedback on alcohol consumption, and found that self-monitoring was an active component in web-based personalized feedback. Tello and colleagues [120] tested a brief computer-delivered intervention based on evaluative conditioning (EC) and found that EC reduced drinking behavior; this effect was most pronounced among participants with the most positive implicit evaluation of alcohol consumption before the intervention. Finally, Norman and colleagues [121] investigated (1) messages that target the key beliefs that underlie binge drinking, based on the theory of planned behavior (TPB), (2) self-affirmation manipulation to reduce defensive processing, and (3) whether implementation intentions reduced alcohol consumption in the first 6 months of higher education. Students who received TPB messages showed significantly less favorable cognitions about binge drinking, consumed fewer units of alcohol, engaged in binge drinking less frequently, and had less harmful patterns of alcohol consumption during their first 6 months at university.

3.7. App and Mobile Interventions

In recent years, an increasing number of app and mobile phone-based therapeutic interventions have become available. Broglia and colleagues [122] explored the guided use of a mobile phone well-being app introduced into a student counseling service and offered as an adjunct to face-to-face counseling. The trial used a two-arm, parallel non-randomized design comparing counseling alone (treatment as usual, or TAU) vs. counseling supplemented with guided use of a mobile phone well-being app (intervention) for 38 university students experiencing moderate anxiety or depression. Both groups demonstrated reduced clinical severity by the end of counseling, especially for depression, social anxiety, and hostility; clients moved from elevated clinical to low clinical, or from low clinical to non-clinical by the end of the intervention. By the 6 month follow-up, TAU clients' anxiety had increased whereas intervention clients' anxiety had continued to decrease. A similar decrease in students' levels of depression was found at the 6 month follow-up. In line with this data, a randomized controlled trial conducted by Harrer and colleagues [123] evaluated the efficacy of an app-supported stress management intervention. Findings indicated significant effects of the intervention, compared with the waitlist control group, for stress, anxiety, depression, college-related productivity, and academic work impairment post-treatments. The effects were maintained at a 3 month follow-up.

Ponzo and colleagues [124] investigated the efficacy of a mobile app (BioBase) and paired wearable device (BioBeam) on anxiety and well-being among university students with elevated levels of anxiety and stress using an intervention group and a waitlist group. Results showed that a 4 week intervention with the BioBase program significantly reduced anxiety and increased perceived well-being, with sustained effects at a 2 week follow-up. Furthermore, a significant reduction in depression levels was found following the four-week usage of BioBase. Richards and colleagues [125] investigated the efficacy of eight weekly sessions of a self-administered online CBT (eCBT) compared to a therapist-assisted email CBT (eCBT; $n = 50$). The results showed no significant differences between the two online treatments, both in reducing depressive symptoms and improving general

functioning. Similarly, at post-treatment and follow-up, clinical improvement and recovery were found in both groups equally.

Pérez-Jorge and colleagues [126] evaluated the effects of the use of mobile learning communication using WhatsApp in the academic monitoring, counseling, and tutoring of university students. The results showed an improvement in time efficiency, planning, and organization, as well as in active learning, decision making, and motivation. Bendtsen and colleagues [127] estimated the effect of a fully automated mobile intervention (mHealth) on positive mental health, anxiety, and depression. At follow-up, positive mental health was significantly higher in the intervention group compared with the control group, while depression and anxiety were significantly lower. Noone and Hogan [128] tested the effects of an online mindfulness intervention on executive function, critical thinking skills, and associated thinking dispositions. The participants were randomly allocated to either a mindfulness meditation group or a sham meditation group, and both interventions were delivered through the Headspace application, which provides guided meditations to users. Both groups were requested to complete 30 guided meditation sessions over 6 weeks. Significant increases in mindfulness dispositions and critical thinking scores were observed in both the mindfulness meditation and sham meditation groups. However, no significant effects of group allocation were observed. App psychological intervention also focused on alcohol consumption. Gajecki and colleagues [129] evaluated the effects of a skills training app on excessive alcohol consumption. TeleCoach is a web-based app comprised of a main menu with two steps for subjects: registration of alcohol consumption in standard glasses for each day of the past week and receipt of brief feedback and information on guidelines for hazardous drinking; and a relapse prevention skills training menu. Results showed reductions in the quantity of drinking at the first follow-up and in the frequency of drinking at both follow-ups.

Finally, Bendtsen and Bendtsen [130] explored a fully automated, push-based, multiple-session alcohol intervention in a non-treatment-seeking group of university students by comparing two modes of intervention delivery—SMS text messaging or email. No difference was found regarding satisfaction with the length and frequency of the intervention regardless of the mode of delivery. Approximately 15% of subjects in both the SMS and the email groups would have preferred the other mode of delivery. However, most students in both groups expressed satisfaction with the content of the messages, and would recommend the intervention to a fellow student who wanted to reduce their drinking. In addition, SMS interventions have also been used for smoking cessation. Müssener and colleagues [131] explored the effectiveness of an SMS text-based smoking cessation intervention, and found self-reported prolonged abstinence (not having smoked more than five cigarettes over the past 8 weeks) and 4 week point prevalence of complete smoking cessation shortly after the completion of the intervention (approximately 4 months after the quit date).

4. Discussion

In a changing world, higher education students will have to face new challenges and develop new strategies to stay current with new demands. A notable number of young adults and students are seeking help for psychological services. Thus, the provision of such services is an important professional issue worldwide [132–136]. Mental distress and disorders are becoming more prevalent in students, but the consulting services offered in colleges and universities are not keeping pace with demand [137–139]. Indeed, in the past decade, undergraduate students have shown an increased willingness to access mental-health services [134]. The literature underlines that the challenges students are facing now are different than in the past, and university mental-health services are overwhelmed. Moreover, the COVID-19 pandemic has increased the already substantial mental strain faced by university students, as well as the need and demand for support [37,41,140,141]. The pandemic had also made it more difficult to access mental-health services [134,142,143]. Thus, it is an opportune time to investigate psychological interventions for university

students and identify what is being offered, what is still needed, and what services could be implemented to ensure students' psychological needs are addressed.

Our literature review shows that among the psychological services provided by universities in Europe, counseling services are the most widespread. Studies have underlined the effectiveness of counseling interventions [144–146], often the first contact a student has with a mental health service. However, for this contact, the student's condition might not come to clinical attention until much later, or at all. Students' counseling services are increasingly emerging as one of the main sources of guidance and support for students and are progressively widening the number of approaches offered [147]. However, from a clinical perspective, counseling services are not sufficient when students are facing serious mental health issues. Thus, there is a strong need for clinical psychology and psychotherapeutic interventions. Indeed, psychotherapeutic work can promote transformations that, in addition to increasing quality of life, can help students evolve toward healthier ways of relating on both the individual and interpersonal levels [15,148]. Nonetheless, only a few studies have focused on psychotherapy, and, most notably, long-term interventions [63,64,149]. Among these studies, there is a strong focus on cognitive-behavioral psychotherapy (CBT; [65,66,150,151]). However, only a few of these studies have focused on the effectiveness of psychodynamic psychotherapies on students' depression and anxiety [59–61]. A recent Italian study based on a psychodynamic-oriented intervention [149,152] by Cerutti and colleagues [63] showed a significant decrease in somatic complaints, depressive symptoms, and withdrawal, indicating that this kind of intervention may represent an efficacious way to deal with emerging psychopathological distress within university contexts. Another study focused on brief psychodynamic interventions [149] that facilitate students' critical self-reflective process by enhancing aspects related to discovery and growth, which can then produce changes in unclear or paralyzed self-representation. In a university context, such brief psychotherapeutic intervention represents a preliminary step leading to a demand for long-term psychotherapeutic interventions.

Our systematic review highlights the issue of alcohol abuse among university students. Young adults with heavy alcohol consumption were more likely to experience both current and future alcohol-related problems. Drinking was associated with risky behaviors, leading to negative academic, physical, and social consequences [153–156]. A study by Butler and colleagues [156] suggested that computerized interventions can be used to efficiently reduce alcohol use among college students. Research has underlined the effectiveness of brief interventions in reducing blood alcohol concentrations (BAC), the number of drinks consumed per sitting, and the number of drinks consumed per week [94,157,158]. Another recent response to the problem of heavy drinking among college students is the development of computer-delivered interventions (CDIs). In this regard, research has underlined that feedback-based computerized interventions were effective for students who drank at hazardous levels and were experiencing higher levels of alcohol-related consequences [159]. Computer-delivered interventions to prevent alcohol abuse and its adverse consequences among students were effective in reducing the frequency and quantity of alcohol consumption [117,120,160].

Our review also emphasizes the online provision of psychology and psychotherapy interventions. Since the beginning of the COVID-19 pandemic, teams of psychologists and mental health professionals have been working to provide telematics assistance to the population. The exponential development of technology, and its subsequent integration into various professions, has required disciplines such as psychology and psychotherapy to adapt. Even before the pandemic, technological development and the internationalization of education promoted the development of technological tools and applications and made them available in student consulting services [126,161–165]. These interventions have already shown their effectiveness in reducing distress, depression, and anxiety [105,110,166]. An Italian study underlined the efficacy of a consulting service providing online activities such as telephone listening activities, online psychological interviews, psychoeducational groups for anxiety management, and small group workshops [167] during the COVID-19

emergency. A study by El Morr and colleagues [168] on university students showed that the mindfulness virtual community (MVC), a web-based program based on CBT constructs and featuring discussion forums and videoconferencing, significantly reduced depression and anxiety symptoms. However, further and more extensive studies are needed to understand if such interventions are effective with different groups of higher education students and if they can lead to an improvement in mental health that lasts in the long term.

Notably, online psychological interventions can reduce the current burden on traditional counseling services, particularly during the pandemic; they can be one of the ways to engage and intervene with college students who are experiencing emotional and mental well-being issues [169]. However, such new contexts need clinical psychologists and psychotherapists to reflect on aspects of our discipline that, while not entirely new, need to be creatively re-thought. Reflecting on these changes also sheds light on the fundamental and central role of the invariants that characterize clinical psychology and the epistemological model it is based on. Indeed, even when the clinical and/or psychotherapeutic encounter is carried out remotely or within a limited time frame, and despite the specific contextual nuances determined by temporality and the devices used, therapy remains centered on and orientated towards the relationship with the patient; even if the body is not directly present in the room, the imagery of the body is present and remains active and alive in the remote encounter. As such, a clinical encounter will always be focused on helping the patient creatively develop meaning for personal, interpersonal, and transpersonal events taking place in their internal world. Consequently, clinical psychologists and psychotherapists must be trained and equipped to grasp these aspects and incorporate them into clinical work.

In conclusion, our results suggest the need to continue investigating and promoting the provision of psychological care for university students, investing in professionally trained staff, and in the long term, developing treatment options for students who might not otherwise have access to treatment. In particular, more comprehensive services are needed to support students with mental health concerns. Health and education professionals alike must invest in psychological interventions for university students at key sites to promote mental health. This will both mitigate disproportionate service supply and demand and address a wider range of specific and complex student mental health difficulties [139,170–172].

Limitations of the Study

Although the studies reviewed met the inclusion criteria, they exhibit differences in methods and dependent variables. Due to the vast number of publications on psychology, tertiary education, college students, and psychological intervention for university students, it is difficult to identify the effectiveness of the interventions presented, as well as determine their generalizability. It is also plausible that some important results have been missed in this review. Furthermore, this study only considered publications in English, impoverishing the number of research articles useful in corroborating the reported data.

Supplementary Materials: The following supporting information can be downloaded at: <https://www.mdpi.com/article/10.3390/youth2030017/s1>, Table S1: Results of the systematic review on psychological interventions for higher education students.

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