



## Review

# Minority stress and mental health in European transgender and gender diverse people: A systematic review of quantitative studies

Fabrizio Mezza<sup>a</sup>, Selene Mezzalira<sup>b,\*</sup>, Rosa Pizzo<sup>a</sup>, Nelson Mauro Maldonato<sup>c</sup>,  
Vincenzo Bochicchio<sup>b</sup>, Cristiano Scandurra<sup>c</sup>

<sup>a</sup> *StnAPSi Center, University of Naples Federico II, Via Giulio Cesare Cortese 29, Napoli 80133, Italy*

<sup>b</sup> *Department of Humanistic Studies, University of Calabria, Via Ponte Bucci Cubo 18/C, Rende 87036, Italy*

<sup>c</sup> *Department of Neuroscience, Reproductive Sciences, and Dentistry, University of Naples Federico II, Via Sergio Pansini 5, Napoli 80133, Italy*



## ARTICLE INFO

## Keywords:

Transgender  
Minority stress  
Health  
Resilience  
Systematic review

## ABSTRACT

The current study aimed at systematically reviewing evidence on the relationships between gender minority stress and mental health outcomes among European transgender and gender diverse (TGD) individuals. A systematic search was conducted in PsycINFO, PubMed, Scopus, and Google Scholar. It was based on Boolean operators to combine terms related to minority stress, TGD identities, and mental health. Thirty studies were identified as eligible. The results confirmed that gender minority stress factors are significantly related with mental health problems among European TGD individuals. Distal stressors were identified as strongly associated with poorer mental health, with gender-related discrimination emerging as the most documented risk factor. The significant role of proximal stressors was also highlighted, with some mediation analyses detecting an indirect effect on mental health. However, identity concealment appeared unrelated to mental health outcomes. Resilience-promoting factors buffering the impact of stressors were also identified, including self-esteem, pride, transitioning, and social support. Conversely, data on community connectedness as a source of resilience were inconclusive. The studies reviewed have several limitations, including lack of longitudinal designs, sampling bias, variability in measurement methods, and unaccounted ethnic variables. Research and clinical recommendations in this field are reported.

## 1. Introduction

*Transgender* (or *trans*) refers to people whose gender identity is not fully aligned with their sex assigned at birth (American Psychological Association, 2015). This highly heterogeneous population is usually categorized in *binary transgender* people (i.e., individuals self-identifying as women if assigned male at birth: AMAB; or as men if assigned female at birth: AFAB) and *nonbinary* (i.e., individuals who perceive their gender identity as not fitting into the gender binarism and who do not identify themselves as exclusively male or female) (Scandurra et al., 2019). In the current scientific literature, the term *transgender and gender diverse* (TGD) is mostly used to encompass all individuals whose gender identities and expressions transgress or transcend the societal binary norms of gender (American Psychological Association, 2015; Bockting et al., 2013). This term will be used for the purposes of the present work.

The prevalence rates of TGD people vary across studies, depending

on age, geographic location, and inclusion criteria used in the epidemiological analyses (Goodman et al., 2019). Indeed, available data are usually collected from gender-affirming healthcare services, thus considering only the subgroup of TGD individuals requiring hormonal or surgical treatment. As a result, the general TGD population size is largely underestimated (Coleman et al., 2022; Collin et al., 2016). However, with greater acceptance and public visibility of TGD people, recently the relative size of this population seems to have been increasing (Zhang et al., 2020). Based on scientific evidence, the prevalence of TGD people in the general population is 0.02–0.1% for health systems-based studies, 0.3–4.5% for survey-based studies of adults, and 2.5–8.4% for survey-based studies of children and adolescents (Coleman et al., 2022).

Extensive research has shown that, compared to cisgender individuals, TGD people experience a greater incidence of mental health problems, including depression, anxiety, substance use, and suicidal ideation and attempts (Dhejne et al., 2016; Hendricks and Testa, 2012;

\* Corresponding author.

E-mail addresses: [selene.mezzalira@unical.it](mailto:selene.mezzalira@unical.it) (S. Mezzalira), [nelsonmauro.maldonato@unina.it](mailto:nelsonmauro.maldonato@unina.it) (N.M. Maldonato), [vincenzo.bochicchio@unical.it](mailto:vincenzo.bochicchio@unical.it) (V. Bochicchio), [cristiano.scandurra@unina.it](mailto:cristiano.scandurra@unina.it) (C. Scandurra).

<https://doi.org/10.1016/j.cpr.2023.102358>

Received 2 April 2023; Received in revised form 8 November 2023; Accepted 14 November 2023

Available online 20 November 2023

0272-7358/© 2023 Elsevier Ltd. All rights reserved.

Gonzalez et al., 2017; Millet et al., 2017; McNeil et al., 2017; Scandurra et al., 2019). Such disparities have been documented across different parts of the world, including European countries (Aparicio-García et al., 2018; Heylens et al., 2014; Scandurra et al., 2023), and they have been associated with the social stigmatization of gender nonconformity that is still pervasive in contemporary societies (White Hughto et al., 2015).

The leading theoretical framework aiding in elucidating the relationship between stigma and mental health is the minority stress theory (MST) – first proposed by Brooks (1981) for lesbian women and then expanded by Meyer (2003, 2007) also to gay and bisexual people – to provide a theoretical explanation for the comparatively higher prevalence of health problems among sexual minority people (e.g., gay, lesbian, bisexual, etc.). Over the last decade, the MST has been empirically applied to TGD individuals' experiences, showing its potentialities to understand the increased risk of mental health problems based on gender diversity (Bockting et al., 2013; Griffin et al., 2019; Hunter et al., 2021; Testa et al., 2017).

The MST asserts that individuals belonging to social minority groups are constantly exposed to specific, unique stressors that result from living with a stigmatized identity (Meyer, 2003). Such stress negatively impacts the health of minority groups throughout their life course, thus increasing their risk of developing mental health problems (Hoy-Ellis, 2023).

The MST organizes minority stressors on a distal-proximal axis (Meyer, 2003). Distal stressors are caused by external sources (i.e., discrimination, harassment, verbal or physical assaults, micro-aggressions, and being denied access to services, resources, or opportunities) that marginalize minority groups or threaten their safety or security. Proximal stressors refer instead to subjective thoughts, beliefs, and feelings mobilized when confronting with a world experienced as stigmatizing, oppressing, and unsafe. Such internal stressors include the expectations of rejection, the concealment of one's own minority identity in order to avoid prejudice events, and internalized stigma. The *Psychological Mediation Framework* (Hatzenbuehler, 2009), a more recent extension of MST, posits group-specific processes (i.e., proximal stressors, such as internalized transphobia) and general psychological processes (e.g., emotion dysregulation, maladaptive coping, rumination) as mediators between distal stressors and mental health, clarifying the mechanisms through which the stigma-related chronic stressors lead to negative health outcomes.

The MST also highlights the crucial role played by resilience factors in buffering the negative impact of minority stressors on health outcomes (Meyer, 2015). These include both group-level resilience factors (e.g., social support or community connectedness; Frost & Meyer, 2012), and individual-level resilience factors, which refer to more personal aspects (e.g., personal agency, self-worth, and personality features; deLira & de Morais, 2018).

The *Gender Minority Stress and Resilience* theory was developed as an expansion of the MST (Testa et al., 2015) to address the peculiar forms of minority stress and resilience factors affecting TGD people's health. This theory takes into account specific, gender-related stressors, such as non-affirmation (e.g., invalidation of a person's gender identity; Goldberg et al., 2019), and internalized transnegativity, resulting from social stigma placed on TGD identities (Bockting et al., 2020; Rood, Reisner, et al., 2017). Resilience factors for TGD individuals include self-definition and (medical or social) transition (Matsuno & Israel, 2018).

Various reviews have recently summarized the available evidence on the relationship between minority stressors and mental health problems among TGD individuals (Gosling et al., 2021; Inderbinen et al., 2021; Tankersley et al., 2021; Valentine & Shipherd, 2018). Remarkably, these reviews were mainly based on samples collected in the United States (US), and only scarce findings refer to European data (Aparicio-García et al., 2018; Heylens et al., 2014; Scandurra et al., 2018).

The greater visibility of research findings from the US may overshadow the experiences of TGD individuals in Europe, who, according to evidence gathered in recent years (European Union Agency for

Fundamental Rights, 2020), face various forms of interpersonal and structural stigma on a daily basis. To address this limitation, we summarized the Europe-specific evidence on the relationships between gender minority stress and mental health outcomes among European TGD individuals.

## 2. Methods

### 2.1. Search strategy

Our systematic review was performed based on the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) 2020 guidelines (Page et al., 2021). A systematic search was conducted in three databases: PsycINFO, PubMed, and Scopus. The search strategy was based on Boolean operators, combining terms related to minority stress processes, TGD identities, and mental health outcomes. Primary search terms used to identify eligible papers comprised: [(minority stress\* OR transphobia OR discrimination OR victimization) AND (transgender\* OR gender divers\* OR gender nonconform\* OR gender-queer OR non-binary OR gender dysphor\*) AND (mental health OR psychosocial)], in association with any of the 53 European countries: Albania, Andorra, Armenia, Austria, Azerbaijan, Belarus, Belgium, Bosnia and Herzegovina, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Georgia, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Kazakhstan, Kyrgyzstan, Latvia, Lithuania, Luxembourg, Malta, Monaco, Montenegro, Netherlands, Norway, Poland, Portugal, Republic of Moldova, Romania, Russian Federation, San Marino, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Tajikistan, The former Yugoslav Republic of Macedonia, Turkey, Turkmenistan, Ukraine, United Kingdom, Uzbekistan.

The search was conducted for publications in the last 20 years, thus restricting the search criteria to records published between January 1, 2002, and July 18, 2023. When the analysis was considered completed, reference lists of included articles, relevant reviews, and Google Scholar were further searched for additional relevant publications. In-text citations, if relevant, were also considered for eligibility.

### 2.2. Eligibility criteria

To be included, studies had to meet the following criteria: (1) being published in peer-reviewed journals; (2) being published from 1st January 2002 to 18th July 2023; (3) having a sample comprised of European TGD individuals; (4) being empirical articles including original data; (5) including quantitative results; (6) containing at least one measure of minority stress; (7) containing at least one direct measure of mental health. Studies were excluded based on the following criteria: (1) containing a non-European TGD sample; (2) including LGBTQ+ samples where results from TGD participants have not been reported separately; (3) absence of assessment of minority stress variables; (4) lack of measures of mental health outcomes; (5) full-text not available in English; (6) grey literature; (7) lack of quantitative data analysis; (8) case studies; (9) papers with no empirical original data (i.e., reviews, meta-analysis, letters to the editor, merely theoretical papers, or commentaries).

The decision to include studies from the last twenty years stems from the recognition that the literature on TGD health has begun to flourish with the onset of the new millennium. This growth coincides with the increasing visibility and cultural recognition of the TGD population, which is now also treated by researchers as a distinct population rather than being equated with sexual minorities.

For this systematic review, we chose to exclude qualitative research because we wanted to focus only on studies that quantified associations and relationships between mental health and gender minority stress via statistical correlation or regression. In addition, concerns about quality control and potential bias in grey literature led to the decision to exclude it from our review and to prioritize peer-reviewed sources.

2.3. Selection procedure

The initial search identified a total of 767 publications. All articles were stored as references using a correspondence database software (Zotero version 6.0.6). After duplicate removal, 615 records were screened. Two authors (FM and RP) independently assessed titles and abstracts according to the inclusion criteria. Disagreements between the two reviewers, which concerned the selection of two studies, were settled involving two other authors (SM and CS). At this stage, a total of 390 records were excluded and the screening process resulted in the retrieval of 225 works. The full-text of these articles was obtained and reviewed by FM and RP, and any discrepancy over eligibility determinations was resolved through discussion meetings involving two additional reviewers (SM and CS). Among the full-text articles assessed for eligibility, 197 articles were excluded, yielding a total of 22 articles that matched the inclusion criteria. In case of two or more articles drawing from the same participant pool, their authors were contacted to determine which record to include in the final analysis. As a result, three records representing secondary analyses of pre-existing datasets were excluded. Eleven additional studies were identified through other sources (i.e., Google Scholar and in-text citations of included articles), yielding a final 30 articles evaluated as suitable for this systematic review.

2.4. Data extraction and analysis

Data were extracted from each full-text paper by two reviewers (FM and RP), which included: year of publication, country of origin, study design and method, sample characteristics (age, sample size, participants), minority stress dimensions, and mental health outcome measures. Also, types of minority stress assessments and types of mental health assessments were summarized (Table 1). Data extraction was cross-checked by SM and CS. As the review aimed at evaluating the existing literature on the association between minority stress and mental health in TGD people, the results were organized according to the minority stress framework. (See Fig. 1.)

2.5. Quality assessment

The National Institutes of Health's Quality Assessment Tool for Observational Cohort and Cross-Sectional Studies (National Heart, Lung and Blood Institute, 2014) was used to rate the quality of the studies included in the review. This tool is composed of 20 items that assess various factors linked to the internal validity of the study (e.g., clarity of research question and methods, representativeness of the study sample and selection biases, sample size justification, appropriateness of study measures, etc.). Each study included in the current review was scored for each of the 14 domains as: yes, no, cannot determine, not applicable, not reported. Based on these scores, we obtained an overall rating determining each study's quality as poor, fair or good. Quality assessment of studies was completed independently by FM and RP. Cohen's kappa ( $\kappa$ ; Cohen, 1960) was used to calculate agreement between evaluators and yielded a score of ( $\kappa = 0.91$ ), indicating strong agreement. Any discrepancies were solved by discussion between assessors and two additional reviewers (SM and CS).

3. Results

Detailed information regarding study design, sample characteristics, assessed variables, and quality assessment ratings are listed in Table 2.

3.1. Study design characteristics

Overall, 30 studies were included in this systematic review. 27 studies (90%) were cross-sectional, and 3 (10%) used a longitudinal design. Almost all included studies utilized convenience sampling,

**Table 1**  
Assessment Tools Used by Selected Studies.

Reference	Minority Stress Assessment(s)	Mental health Assessment(s)
Aparicio-García et al. (2018)	- Protective factors (9 dichotomous questions) - Violence or Personal safety (7 dichotomous questions) - Experiences of Transphobic Victimization	- Health and Well-being (8 dichotomous questions) - General Health Questionnaire - Self-Injury Questionnaire
Arcelus et al. (2016)	- Inventory of Interpersonal Problems - Multidimensional Scale of Perceived Social Support - Resilience Scale for Adults - Multidimensional Scale of Perceived Social Support	- Symptom Checklist-90-Revised - Rosenberg Self Esteem Scale
Başar and Öz (2016)	- Perceived Personal Discrimination Scale - Perceived Group Discrimination Scale - Exposure to Violence Questionnaire - Duke-UNC-11	- Beck Depression Inventory
Bergero-Miguel et al. (2016)	- Functional Social Support Questionnaire	- Mini-International Neuropsychiatric Interview - Beck Depression Inventory II
Bouman et al. (2017)	- Experiences of Transgender Phobia Scale - Multidimensional Scale of Perceived Social Support	- Hospital Anxiety and Depression Scale - Rosenberg Self-Esteem Scale - Inventory of Interpersonal Problems
Bränström and Pachankis (2021)	- Concealment of transgender identity (one 4-point item) - Everyday discrimination (eight 4-point items) - Country-level structural stigma (index of laws and policies concerning transgender people collected by the International Lesbian, Gay, Bisexual, Trans and Intersex Association in Europe, combined with one 10-point measure of social attitudes from European Commission's Survey)	- Life Satisfaction (one 10-point item)
Bränström et al. (2022)	- Exposure to discrimination (1 question) - Exposure to threats of violence (1 dichotomous question) - Lack of social support (2 dichotomous questions)	- Lifetime suicidal ideation (1 question) - Lifetime suicide attempt (1 question) - Past 12-month suicidal ideation (1 question) - Past 12-month suicide attempt (1 question)
Brokjøb and Cornelissen (2022)	- Daily Heterosexist Experiences Questionnaire	- Substance abuse - Eating Disorder Examination Questionnaire - Patient Health Questionnaire-9 - General Anxiety Disorder-7
Charak et al. (2023)	- Life Events Checklist - Daily Heterosexist Experiences Questionnaire	- International Trauma-Questionnaire - State-Trait Anxiety Inventory
Collet et al. (2023)	- Everyday Discrimination Scale (nine items) - Stigma consciousness questionnaire - Resilience Scale - Social network (3 questions)	- Beck Depression Inventory II - Suicidal thoughts/attempts (4 questions) - Scale for Suicide Ideation - Perceived Stress Scale
de Lange et al. (2022)	- Internalized homonegativity - Trans-related victimization (one 7-point item) - Stigma consciousness questionnaire	- Suicidality

(continued on next page)

**Table 1 (continued)**

Reference	Minority Stress Assessment(s)	Mental health Assessment(s)
de Vries et al. (2016)	- Peer relations Scale (derived from 3 Child Behavior Checklist [CBCL] items) - LGBTI bullying in school (1 dichotomous question) - LGBTI bullying in college (1 dichotomous question) - LGBTI bullying at work (1 dichotomous question) - LGBTI related verbal or written threats (1 dichotomous question)	- CBCL - Poor peer relations (created from 3 CBCL items) - Youth Self-Report
deVries et al. (2022)	- LGBTI related violence (1 dichotomous question) - LGBTI related threats (1 dichotomous question) - Gender identity comfort (one 5-point item) - Safety expressing gender identity (one 5-point item) - LGBTI bullying in school (1 dichotomous question) - Rosenberg Self-Esteem Scale - Gender Minority Stress and Resilience Measure	- Depression, Anxiety, and Stress Scale - Alcohol Use Disorders Identification Test - Experiences of self-harm (1 dichotomous question) - Suicide ideation (1 dichotomous question) - Suicide attempt (1 dichotomous question)
Garro et al. (2022)	- Scale of Perceived Social Support	- Loneliness and Aloneness Scale - Warwick–Edinburgh Mental Well-being Scale
Helsen et al. (2022)	- Gender Minority Stress and Resilience Measure	- General Health Questionnaire - Patient Health Questionnaire-9
Hunter et al. (2021)	- Gender Minority Stress and Resilience Measure - Heteronormative Attitudes and Beliefs Scale	- Generalized Anxiety Disorder Assessment - Warwick–Edinburgh Mental Well-being Scale - Center of Epidemiologic Studies Depression Scale
Jäggi et al. (2018)	- Gender Minority Stress and Resilience Measure - Daily prejudice events (1 dichotomous questions) - Daily expectations of rejection (one 5-point item)	
Kiekens et al. (2022)	- Daily concealment (one 5-point item) - Daily internalized stigma (two 5-point items)	- Daily alcohol use (1 dichotomous question)
Kneale and Bécarea (2021)	- Any discrimination (non-specified number of questions) - Stigma exposure (two 10-point items)	- Center of Epidemiologic Studies Depression Scale - Perceived Stress Scale
Koziara et al. (2021)	- Daily Heterosexist Experiences Questionnaire - Resilience Measurement Scale - Rosenberg Self-Esteem Scale - Daily Heterosexist Experiences Questionnaire	- Center for Epidemiologic Studies Depression Scale - Patient Health Questionnaire
Koziara et al. (2022)	- Rosenberg Self-Esteem Scale - The Resilience Measurement Scale SPP-25	- Center for Epidemiologic Studies Depression Scale–Revised
Levitan et al. (2019)	- Youth Self-Report	- Acceptance and Action Questionnaire-II
Lloyd et al. (2019)	- Gender Minority Stress and Resilience Measure  - General discrimination (nine 5-point items) - Everyday Discrimination Scale	- Depression Anxiety Stress Scale  - Center for Epidemiologic Studies Depression Scale
Scandurra et al. (2017)	- Perceived Stigma Scale - Transgender Identity Scale - The Resilience Scale - Multidimensional Scale of Perceived Social Support	- Beck Anxiety Inventory - Suicidal ideation (1 dichotomous question)

**Table 1 (continued)**

Reference	Minority Stress Assessment(s)	Mental health Assessment(s)
Scandurra et al. (2020)	- Gender Minority Stress and Resilience Measure	- Severity Measure for Generalized Anxiety Disorder - Severity Measure for Depression - Perceived Stress Scale - Multidimensional Scale of Perceived Social Support - Severity Measure for Generalized Anxiety Disorder
Scandurra et al. (2021)	- Gender Minority Stress and Resilience Measure	- Severity Measure for Depression - General Health Questionnaire - Psychological Well-Being Scale
Scandurra et al. (2023)	- Multidimensional Scale of Perceived Social Support - Victimization (one 7-point item) - Identity disclosure (eight 5-point item) - Country-level structural stigma (index of laws and policies concerning transgender people collected by the International Lesbian, Gay, Bisexual, Trans and Intersex Association in Europe, combined with one 10-point measure of social attitudes from European Commission's Survey) - Community participation (4 questions)	
Ünsal et al. (2023)	- Transgender Bullying Questionnaire	- Depression (one 6-point item)
Witcomb et al. (2019)	- Transgender Bullying Questionnaire	- Hospital Anxiety and Depression Scale - Self-rated health (one 4-point item) - Self-reported disability (1 dichotomous question)
Zeluf et al. (2016)	- History of negative health care experiences (1 question) - Openness with being trans (1 question) - Practical support (1 question) - Social support (1 question).	- Quality of life (one 10-point item) - Tobacco use ever (2 questions) - Risk consumption of alcohol (1 question)

except for one study that reported results from a population-based sample. In 7 studies (23.3%) participants were recruited from clinical settings where clients were receiving a wide array of gender-affirming services. None of the included studies assessed psychological interventions aimed at improving mental health in TGD individuals.

### 3.2. Location

Six included studies were conducted in the UK (20%), 5 in Italy (16.67%), 4 in the Netherlands (13.3%), 3 in Spain (10%), 2 in Poland (6.67%) and 2 were cross-national (6.9%). The remaining 8 studies were conducted, respectively, in Sweden, Turkey, Norway, Switzerland, Croatia, Ireland, Germany and Belgium.

### 3.3. Sample characteristics

Sample sizes ranged from 55 to 15,845 participants. In total, the mean age ranged from 15.53 to 43, and ages ranged from 13 to 94. Eighteen studies (60%) examined adults at least 18 years old. Eight studies (26.67%) examined samples solely consisting of youth, whilst 5 (16.67%) were based on mixed-age samples. In more than half of the included studies ( $n = 18$ ; 60%), the ethnic demographics of their participants were not examined or reported. Twelve studies (40%) provided demographic data regarding ethnicity, and, among them, participants

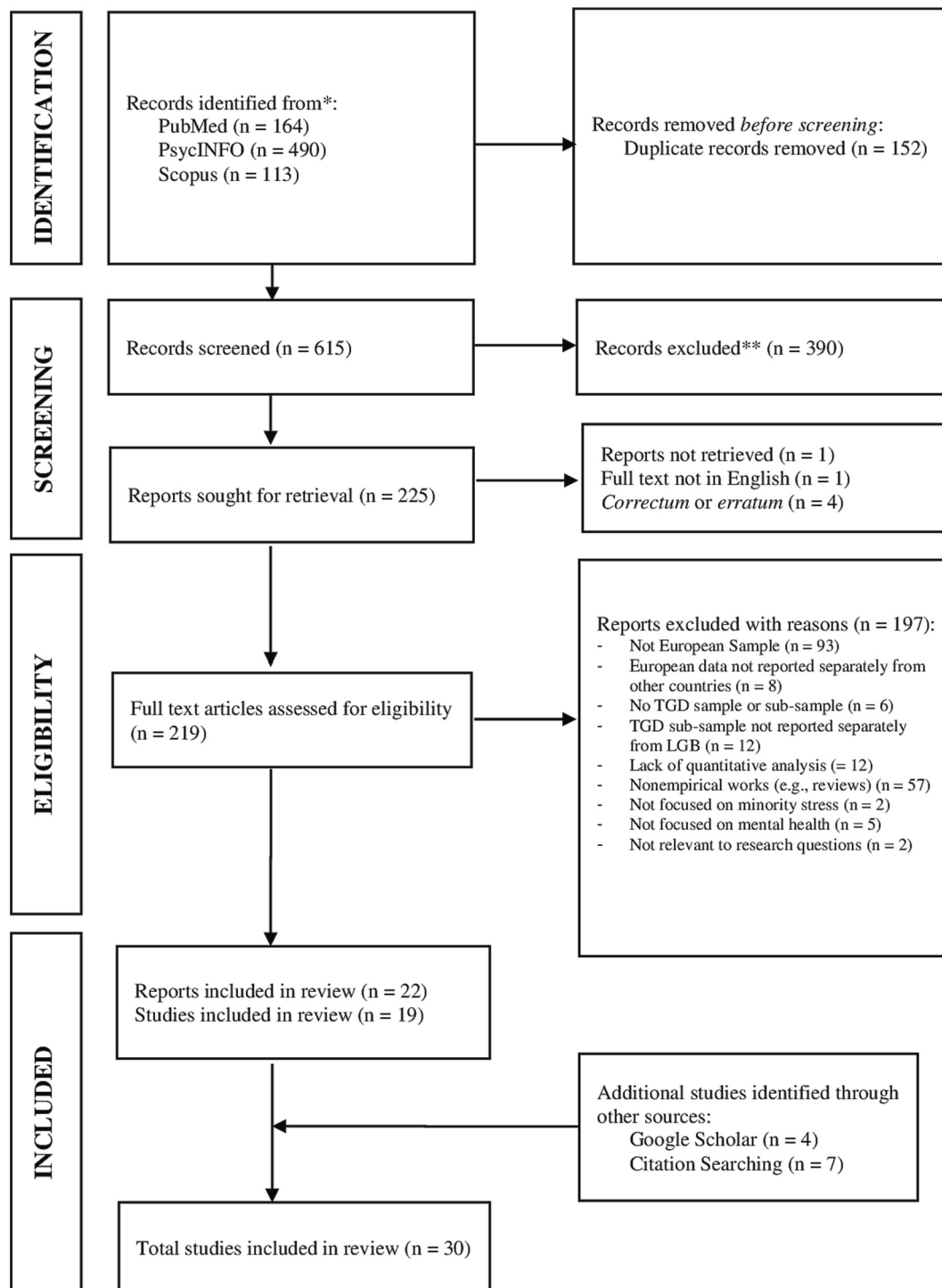


Fig. 1. PRISMA Flowchart of the systematic search.

were predominantly Caucasian, with racial and ethnic minorities representing only a small percentage of the samples, ranging from 0% to 17.4%.

### 3.4. Quality assessment

Quality ratings indicated that the overall methodological quality of papers included in the current review was good, with the majority of the studies (n = 27; 90%) being of good quality, 2 (6.67%) of fair quality and 1 (3.3%) of poor quality. The main area of weakness is inherently attributable to the cross-sectional nature of the included studies and

regards the measurement of risk or resilience variables during the same time frame as mental health outcomes, which means that causality cannot be determined. Other weaknesses included not indicating the response rate of the sample, not reporting a sample size justification, and only measuring variables at one time point. Among studies rated as fair and poor, the most common weakness was the lack of use of validated measures, with the application of assessment tools developed ad hoc or adapted from other instruments (Table 3).

**Table 2**  
Summary of Results.

Reference	Country	Study design	Sample characteristics	Minority stress variables	Mental health variables	Quality assessment
Aparicio-García et al. (2018)	Spain	Cross-sectional online survey	N = 250 (180 transgender, 70 non-binary) Age range:14–25 M age ± SD: 20.36 ± 3.12% ethnic minorities = n.r.	Distal stressors: Violence or personal safety Group resilience factors: Social support	Health and symptoms of minor psychiatric disorders (i.e., somatic symptoms, anxiety and insomnia, social dysfunction, and depression)	Fair
Arcelus et al. (2016)	UK	Cross-sectional survey	N = 268 (121 AFAB, 136 AMAB, 11 did not respond) Age range:17–25 M age ± SD: 19.9 ± 2.17% ethnic minorities = 10%	Distal stressors: Transphobic victimization Individual resilience factors: Self-esteem Group resilience factors: Perceived social support	Suicidality and general psychopathology	Good
Başar and Öz (2016)	Turkey	Cross-sectional survey	N = 116 (88 transmen, 28 transwomen) Age range:17–51 M age ± SD: 25 ± 8% ethnic minorities = n.r.	Individual resilience factors: Resilience	Depression	Good
Bergero-Miguel et al. (2016)	Spain	Cross-sectional survey	N = 210 (109 trans female, 101 trans male) Age range:14–59 M age ± SD: 27.86 ± 9.53% ethnic minorities = n.r.	Distal stressors: Victimization Group resilience factors: Perceived social support	Social anxiety disorder, and depression	Good
Bouman et al., 2017	UK	Cross-sectional survey	N = 899 (572 trans female, 327 trans male) Age range:16–92 M age ± SD: 30.4 ± 13.9% ethnic minorities = n.r.	Distal stressors: Victimization Individual resilience factors: Self-esteem Group resilience factors: Perceived social support	Anxiety and depression	Good
Bränström and Pachankis (2021)	29 European countries	Cross-sectional online survey	N = 6771 (2556 AFAB, 4151 AMAB) Age range: 18–29 years = 3073 30–39 years = 1536 40–49 years = 1164 50–59 years = 671 60 years or older = 263% ethnic minorities = 6.9%	Distal stressors: Everyday discrimination, country-level structural stigma Proximal stressors: Concealment of transgender identity	Life satisfaction	Good
Bränström et al. (2022)	Sweden	Cross-sectional survey	N = 533 transgender M age ± SD: 43.0 ± 18.8% ethnic minorities = n.r.	Distal stressors: Exposure to discrimination and to threats of violence Group resilience factors: Interpersonal functioning	Suicidality, depression symptoms, and substance abuse	Good
Brokjøb and Cornelissen (2022)	Norway	Cross-sectional online survey	N = 85 (53 transgender men, 18 transgender women, 14 nonbinary) Age range:18–59 M age ± SD: 25.51 ± 8.73% ethnic minorities = n.r.	Distal stressors: Harassment and discrimination, victimization, vicarious trauma, family of origin, and isolation Proximal stressors: Vigilance and gender expression	Eating pathology, depression, and anxiety	Good
Charak et al. (2023)	Spain	Cross-sectional online survey	N = 74 (19 trans men, 10 trans women, 30 nonbinary, 15 additional gender identity not listed) Age range:18–60 M age ± SD: 31.35 ± 9.48% ethnic minorities = 17.4%	Distal stressors: Lifetime traumatic events, gender expression, discrimination / harassment, vicarious trauma, rejection by family of origin, and isolation Proximal stressor: Vigilance	PTSD symptoms, disturbances in self-organization symptoms, and functional impairment	Good
Collet et al. (2023)	Belgium	2-wave longitudinal online survey	N = 85 (47 trans men, 38 trans women) M age ± SD: 30.0 ± 11.0% ethnic minority status = n.r.	Distal stressors: Everyday discrimination Proximal stressors: Stigma consciousness Individual resilience factors: Resilience Group resilience factors: Social network	Anxiety, depression symptoms, suicidality, and perceived stress	
de Lange et al. (2022)	Flanders (Belgium) and Netherlands	Cross-sectional online survey	N = 305 (AFAB 78.4%; AMAB 21.6%) Age range:18–29 M age ± SD: 21.76 ± 3.21% ethnic minorities = n.r.	Distal stressors: Trans-related victimization Proximal stressors: Stigma consciousness	Suicidality (lifetime suicidal ideation and attempts)	Good
de Vries et al. (2015)	Netherlands	Cross-sectional online survey	N = 139 (79 transgendermales, 60 transgender females) Age range:13–18% ethnic minorities = n.r.	Distal stressors: Peer relations	Behavioral and emotional problems	Good
deVries et al. (2022)	Ireland	Cross-sectional online survey	N = 279 transgender Age range:15–71 M age ± SD: 29 ± 13.2% ethnic minorities = 0	Distal stressors: Experience of bullying, LGBTI related threats, LGBTI related violence. Proximal stressors: Gender identity comfort, safety	Depression, anxiety, stress, alcohol use disorders, experiences of self-harm, suicide ideation, and suicide attempts	Good

(continued on next page)

Table 2 (continued)

Reference	Country	Study design	Sample characteristics	Minority stress variables	Mental health variables	Quality assessment
Garro et al. (2022)	Italy	Cross-sectional online survey	N = 79 (45 binary, 34 nonbinary, of which 22 AMAB and 57 AFAB) Age range:18–30 M age ± SD: 23.73 ± 3.59 % ethnic minorities = 3.8%	expressing gender identity. Individual resilience factors: Self-esteem Proximal stressors: Internalized transphobia Group resilience factors: Perceived social support	Loneliness and psychological well-being	Good
Helsen et al. (2022)	Flanders / Netherlands	Cross-sectional online survey	N = 143 (65 transgender women, 44 transgender men, 34 nonbinary) Age range:18–70 M age ± SD: 34.79 ± 13.62% ethnic minorities = n.r.	Proximal stressors: Internalized transnegativity, expectations of rejection, concealment Protective factors: Community connectedness	Mental health difficulties	Good
Hunter et al. (2021)	UK	Cross-sectional online survey	N = 106 TGD M age ± SD: 20 ± 2.6% ethnic minority status = n.r.	Distal stressors: Gender-related discrimination, rejection, victimization, non-affirmation of gender identity Proximal stressors: Internalized transphobia, negative expectations, heteronormative attitudes and beliefs Individual resilience factors: Pride Group resilience factors: Community connectedness	Depressive symptoms, generalized anxiety disorder, and mental well-being	Good
Jäggi et al. (2018)	Switzerland	Cross-sectional online survey	N = 143 (52% transfeminine, 30% transmasculine, 18% nonbinary) Age range:18–75 M age ± SD: 45.2 ± 18.2% ethnic minority status = n.r.	Distal stressors: Gender-related discrimination, gender-related rejection, gender-related victimization, nonaffirmation of gender identity Proximal stressors: Internalized transphobia, negative expectations, nondisclosure Individual resilience factors: Pride Group resilience factors: Community connectedness	Depressive symptoms	Good
Kiekens et al. (2022)	Netherlands	Online daily diary study	N = 55 (22 transgender men, 3 transgender women, 15 non-binary, 8 genderqueer, 4 genderfluid, 3 with a different gender identity) M age ± SD: 18.36 ± 2.65% ethnic minority status = n.r.	Distal stressors: Daily prejudice events Proximal stressors: Daily expectations of rejection, daily concealment, daily internalized stigma	Daily alcohol use	Good
Kneale and Bécares (2021)	UK	Cross-sectional web-based survey	N = 73 TGD 25–34 years: 31.51% 35–44 years: 31.51% 45–54 years: 16.44% 55+ years: 4.11% % ethnic minorities = 9.59%	Distal stressors: Experiences of discrimination	Depressive symptoms and perceived stress	Good
Koziara et al. (2021)	Poland	Cross-sectional web-based survey	N = 98 (53 non-binary, 45 transgender men and transgender women) M age ± SD: 24.3 ± 7.28% ethnic minorities = n.r.	Proximal stressors: Perceived stigma exposure Individual resilience factors: Resilience, self-esteem	Depression	Good
Koziara et al. (2022)	Poland	Cross-sectional web-based survey	N = 98 Age range:19–70 M age ± SD: 24.30 ± 7.28% ethnic minorities = n.r.	Distal stressors: Harassment, victimization, isolation, vicarious trauma, and family of origin Proximal stressors: Vigilance Individual resilience factors: Self-esteem and resilience	Depression	Good
Levitán et al. (2019)	Germany	Cross-sectional survey	N = 180 (146 transgender boys, and 34 transgender girls) M age ± SD: 15.53 ± 1.35% ethnic minorities = n.r.	Distal stressors: Poor peer relations	Psychological functioning (behavioral and emotional problems)	Good
Lloyd et al. (2019)	UK	2-wave longitudinal online survey	N = 358 (67 trans women, 66 trans men, 57 non-binary, 39 woman with a trans history, 23 genderqueer, 20 agender, 17 other, 15 genderfluid, 14 women, 13 men, 10 men with a trans history, 9 transsexual, 4 androgynous, 2 transvestite/cross-dresser, and 2 gender nonconforming) Age range:18–72	Distal stressors: Gender-related discrimination Proximal stressors: Internalized transphobia, identity nondisclosure	Depression, anxiety, and stress	Good

(continued on next page)

Table 2 (continued)

Reference	Country	Study design	Sample characteristics	Minority stress variables	Mental health variables	Quality assessment
Scandurra et al. (2017)	Italy	Cross-sectional survey	<i>M</i> age ± <i>SD</i> : 34.9 ± 14.84% ethnic minorities: 6.5% <i>N</i> = 149 (75 transgender women and 74 transgender men) <i>M</i> age ± <i>SD</i> : 33.18 ± 10.96 ethnic minority: 1.4%	<i>Distal stressors</i> : Prejudice events <i>Proximal stressors</i> : Perceived stigma, internalized transphobia <i>Group resilience factors</i> : Social support	Depression, anxiety, and suicidal ideation	Good
Scandurra et al. (2020)	Italy	Cross-sectional online survey	<i>N</i> = 203 transgender individuals (56 transwomen, 100 transmen, 47 gender nonconforming/nonbinary) Age range: 18–66 <i>M</i> age ± <i>SD</i> : 30.70 ± 10.79% ethnic minorities: 5.5%	<i>Distal stressors</i> : Discrimination, rejection, victimization, and nonaffirmation <i>Proximal stressors</i> : Internalized transphobia, negative expectations, and nondisclosure <i>Individual resilience factors</i> : Pride <i>Group resilience factors</i> : Community connectedness	Anxiety, depression, and perceived stress	Good
Scandurra et al. (2021)	Italy	Cross-sectional online survey	<i>N</i> = 197 (152 binary, 45 nonbinary, of which 63 AMAB and 134 AFAB) Age range: 18–54 <i>M</i> age ± <i>SD</i> : 29.82 ± 9.64% ethnic minorities: 5.1%	<i>Distal stressors</i> : Discrimination, victimization, rejection, non-affirmation of gender identity <i>Proximal stressors</i> : Internalized transphobia, negative expectations for future events, nondisclosure <i>Group resilience factors</i> : Perceived social support	Anxiety, depression, and psychological distress	Good
Scandurra et al. (2023)	Italy	Cross-sectional online survey	<i>N</i> = 129 nonbinary (26 AMAB and 103 AFAB) Age range: 18–49 years <i>M</i> age ± <i>SD</i> : 27.14 ± 5.65% ethnic minorities = 1.6%	<i>Group resilience factors</i> : Perceived social support	Psychological well-being	Good
Ünsal et al. (2023)	30 European countries	Cross-sectional online survey	<i>N</i> = 15,845 (5513 AMAB, 9491 AFAB, and 841 other) Age range: 18–59 <i>M</i> age ± <i>SD</i> : n.r. % ethnic minorities = 7.5%	<i>Distal stressors</i> : Structural stigma, victimization <i>Proximal stressors</i> : Identity disclosure <i>Group resilience factors</i> : Community participation	Depression	Good
Witcomb et al. (2019)	UK	Cross-sectional survey	<i>N</i> = 274 (95 birth-assigned males, 179 birth-assigned females) <i>M</i> age ± <i>SD</i> : 19.38 ± 2.55 Age range: 16–25% ethnic minorities: n.r.	<i>Distal stressors</i> : Transphobic bullying	Anxiety, depression, and well-being	Fair
Zeluf et al. (2016)	Sweden	Cross-sectional web-based survey	<i>N</i> = 796 (149 transfeminine, 187 trans masculine, 346 gender nonbinary, 112 transvestite) <i>M</i> age: 33.3 Age range: 15–94% ethnic minorities: n.r.	<i>Distal stressors</i> : History of negative health care experiences	Tobacco use ever and alcohol risk consumption	Poor

Notes. Definition of gender identities are those reported by authors. *N* = Number; *M* = Mean; *SD* = Standard deviation; *n.r.* = not reported.

### 3.5. Mental health variables

Nineteen studies included in this review (63.3%) reported on depressive symptoms, 12 (40%) assessed anxiety, 6 (20%) assessed perceived stress, other 6 (20%) assessed suicidality, and 4 (13.3%) examined substance abuse. Other mental health variables assessed across studies were Posttraumatic Stress Disorder (PTSD) symptoms ( $n = 1$ ; 3.3%), behavioral and emotional problems ( $n = 2$ ; 6.67%), general psychopathology ( $n = 2$ ; 6.67%), psychological well-being ( $n = 5$ ; 16.67%) or life satisfaction ( $n = 1$ ; 3.3%).

### 3.6. Minority stress variables

Consistent with the MST, risk and resilience factors were classified in this review as distal minority stressors, proximal minority stress processes, and resilience variables.

#### 3.6.1. Overall minority stress

Only 4 studies (Brokjøb & Cornelissen, 2022; Charak et al., 2023; Kozlarska et al., 2022, 2021) assessed the overall effect of minority stress experiences, all using the total score of the *Daily Heterosexist Experiences*

*Questionnaire* (DHEQ; Balsam et al., 2013). Findings consistently showed that minority stress was significantly associated with various psychopathologies.

Even though the DHEQ is a measure specifically focused on heterosexism, a construct that does not particularly relate to TGD individuals, we deemed it appropriate not to exclude the studies that used this scale. Indeed, the DHEQ was validated by Balsam et al. (2013) on a sample that included also TGD individuals. Certain items (e.g., “Being misunderstood by people because of your gender expression” or “Difficulty finding clothes that you are comfortable wearing because of your gender expression”) accurately capture experiences commonly lived by TGD individuals. Moreover, it is important to recognize that heterosexism and cisgenderism, as well as homophobia and transphobia, often blur in the daily experience. For example, homophobic insults often target not only the victims' sexual orientation, but also their gender presentation, regardless of which sexual or gender minority group they identify with. TGD people often face heterosexist experiences, such as homophobic assaults (“Being called names such as ‘fag’ or ‘dyke’”) based on their gender nonconformity rather than their sexual orientation. Such aggressions have likely the same negative impact on their mental health as the experiences with cisgenderism and transphobia (Hill, 2002). For



**Table 3**  
Quality Ratings of Selected Studies.

Authors	Research Question	Study Population	Rate of eligible persons	Same population and eligibility	Sample size justification	Exposure prior to outcome	Sufficient time-frame	Levels of exposure	Exposure measures	Repeated exposure	Outcome measures	Statistical analysis	Overall Rating
Aparicio-García et al. (2018)	Yes	Yes	N.R.	Yes	No	No	No	N.A.	N.A.	N.A.	No	Yes	Fair
Arcelus et al. (2016)	Yes	Yes	N.R.	Yes	No	No	No	Yes	Yes	No	Yes	Yes	Good
Başar and Öz (2016)	Yes	Yes	Yes	Yes	No	No	No	Yes	Yes	No	Yes	Yes	Good
Bergero-Miguel et al. (2016)	Yes	Yes	Yes	Yes	No	No	No	Yes	Yes	No	Yes	Yes	Good
Bouman et al. (2017)	Yes	Yes	N.R.	Yes	No	No	No	Yes	Yes	No	Yes	Yes	Good
Bränström and Pachankis (2021)	Yes	Yes	N.R.	Yes	No	No	No	Yes	Yes	No	No	Yes	Good
Bränström et al. (2022)	Yes	Yes	N.R.	Yes	No	No	No	Yes	No	No	No	Yes	Good
Brokjøb et al. (2021)	Yes	Yes	Yes	Yes	No	No	No	Yes	Yes	No	Yes	Yes	Good
Charak et al. (2022)	Yes	Yes	N.R.	Yes	Yes	No	No	Yes	Yes	No	Yes	Yes	Good
Collet et al., (2023)	Yes	Yes	N.R.	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Good
de Lange et al. (2022)	Yes	Yes	Yes	Yes	No	No	No	Yes	Yes	No	No	Yes	Good
de Vries et al. (2015)	Yes	Yes	Yes	Yes	Yes	No	No	Yes	No	No	Yes	Yes	Good
de Vries et al. (2022)	Yes	Yes	N.R.	Yes	No	No	No	Yes	No	No	Yes	Yes	Good
Garro et al. (2022)	Yes	Yes	N.R.	Yes	No	No	No	Yes	Yes	No	Yes	Yes	Good
Helsen et al. (2022)	Yes	Yes	Yes	Yes	Yes	No	No	Yes	Yes	No	Yes	No	Good
Hunter et al. (2021)	Yes	Yes	Yes	Yes	No	No	No	Yes	Yes	No	Yes	Yes	Good
Jäggi et al. (2018)	Yes	Yes	N.R.	Yes	No	No	No	Yes	Yes	No	Yes	Yes	Good
Kiekens et al. (2022)	Yes	Yes	Yes	Yes	No	Yes	No	Yes	No	Yes	No	Yes	Good
Kneale and Bécares (2021)	Yes	Yes	N.R.	Yes	No	No	No	Yes	No	No	Yes	Yes	Good
Koziara et al. (2021)	Yes	Yes	N.R.	Yes	No	No	No	Yes	Yes	No	Yes	Yes	Good
Koziara et al. (2022)	Yes	Yes	N.R.	Yes	No	No	No	Yes	Yes	No	Yes	Yes	Good
Levitan et al. (2019)	Yes	Yes	Yes	Yes	Yes	No	No	Yes	No	No	Yes	Yes	Good
Lloyd et al. (2019)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Good
Scandurra et al. (2017)	Yes	Yes	Yes	Yes	No	No	No	Yes	Yes	No	Yes	Yes	Good
Scandurra et al. (2020)	Yes	Yes	No	Yes	No	No	No	Yes	Yes	No	Yes	Yes	Good
Scandurra et al. (2021)	Yes	Yes	N.R.	Yes	No	No	No	Yes	Yes	No	Yes	Yes	Good
Scandurra et al. (2022)	Yes	Yes	Yes	Yes	Yes	No	No	Yes	Yes	No	Yes	Yes	Good
Únsal et al. (2023)	Yes	Yes	N.R.	Yes	No	No	No	Yes	Yes	No	No	Yes	Good
Witcomb et al. (2019)	Yes	Yes	N.R.	Yes	No	No	No	Yes	No	No	Yes	No	Fair
Zeluf et al. (2016)	Yes	Yes	Yes	Yes	No	No	No	Yes	No	No	No	Yes	Poor

Notes. N.R. = not reported; N.A. = not applicable.

these reasons, studies using the DHEQ were included in our review.

### 3.6.2. Distal factors

Associations between mental health and distal stressor were reported by 26 studies (86.67%). Five studies (Hunter et al., 2021; Jäggi et al., 2018; Kiekens et al., 2022; Scandurra et al., 2020; Zeluf et al., 2016) reported on distal minority stress as an overall score. For all other studies, forms of minority stress factors measured included: country-level structural stigma (Bränström & Pachankis, 2021; Ünsal et al., 2023), gender-related discrimination (Bränström et al., 2022; Kneale & Bécares, 2021; Lloyd et al., 2019; Scandurra et al., 2017), everyday discrimination (Collet et al., 2023; Scandurra et al., 2017), transphobic victimization (Arcelus et al., 2016; Bergero-Miguel et al., 2016; Bouman et al., 2017; de Lange et al., 2022; Ünsal et al., 2023), and bullying (deVries et al., 2022; Witcomb et al., 2019). Detailed information of how all minority stress constructs were measured are described in Table 3.

Overall, distal minority stress was consistently found to be associated with negative mental health outcomes. Specifically, 3 studies reported on overall distal minority stress using the distal stressors subscales of the *Gender Minority Stress and Resilience Measure* (GMSR; Testa et al., 2015), which assesses the following dimensions: (a) gender-related discrimination, (b) rejection, (c) victimization, and (d) non-affirmation. Higher scores for total distal stress on the GMSR scale were found to be significantly and positively associated with anxiety (Scandurra et al., 2020) and depressive symptoms (Jäggi et al., 2018; Scandurra et al., 2020). Furthermore, in the UK context, the overall score for distal stressors measured with the GMSR scale were found to be associated with greater anxiety and poorer well-being in TGD adolescents and young people (Hunter et al., 2021). Associations between overall distal minority stress and mental health difficulties were also reported in a daily diary study among Dutch youth (Kiekens et al., 2022), who found that higher mean levels of prejudice events were weakly but significantly correlated with higher odds of daily alcohol use. Finally, among TGD people living in Sweden, Zeluf et al. (2016) found that history of negative health care experiences, including non-affirming health care, trans-incompetence, and transphobia in the health care system, was associated with worse self-rated health, increased self-reported disability, and lower quality of life.

**Discrimination.** Seven of the reviewed studies (23.3%) examined the relationship between discrimination and mental health. In a large sample of TGD participants ( $n = 6771$ ) across 28 European countries, Bränström and Pachankis (2021) found that country-level structural stigma, measured as discriminatory laws and policies and community attitudes toward TGD people, was associated with lower life satisfaction. In another study, using a population-based probability sampling in Sweden, Bränström et al. (2022) reported that exposure to discrimination significantly mediated the associations between transgender status and suicidal ideation and attempts. Indirect associations between gender-related discrimination and negative mental health variables (i.e., depression, anxiety, and stress) via psychological inflexibility were found in a national UK study (Lloyd et al., 2019). Within a sample of Italian TGD people, Scandurra et al. (2017) observed that higher scores on everyday discrimination were associated with higher scores on anxiety, depression, and suicidal ideation, where everyday discrimination being the factor most strongly associated with all three outcomes than general discrimination (i.e., major life prejudice events). Drawing from a TGD subsample of a cross-sectional survey targeted at LGBTQ+ people and conducted at the start of the COVID-19 pandemic in the UK, Kneale and Bécares (2021) ascertained that the odds of reporting depressive symptomatology among TGD participants exposed to discrimination were three times higher than among those who had not experienced any form of discrimination. Finally, in a subsample of 74 transgender participants residing in Spain, Charak et al. (2023) found that discrimination was significantly associated with the re-experiencing domain of PTSD, although the association with the other symptom clusters and the higher-order factor of PTSD did not reach any significance. In the

longitudinal study by Collet et al. (2023), examining everyday discrimination scores in a clinical sample of 85 TGD individuals in Belgium, no significant associations were found.

**Victimization.** Seven studies (23.3%) examined victimization. Specifically, 4 studies examined the relationship between victimization and mental health symptomatology among gender minority youth samples. Within young TGD individuals referred to a national gender identity clinic service in the UK, levels of transphobia were found to be associated with general psychopathology (Arcelus et al., 2016). Within the same sample, experiences of transphobic victimization were more common in people with a lifetime presence of non-suicidal self-injury compared to those with a lifetime absence of it (Arcelus et al., 2016). In a sample of TGD individuals from Flanders (Belgium) and the Netherlands, de Lange et al. (2022) found that participants who reported low or high levels of victimization were more likely to report suicidal ideation in their lifetime and in the past year compared with those who had not been victimized. High levels of victimization were also associated with a higher likelihood of suicide attempts in life. In a UK sample of clinic-referred youth, participants with experiences of bullying, predominantly in school, reported significantly more anxiety than those who had not experienced bullying. Instead, no significant differences in depression scores were found (Witcomb et al., 2019). Associations between anxiety and victimization at school were also reported by Bergero-Miguel et al. (2016) in a mixed-age sample of TGD individuals, among whom social anxiety disorder was found to be correlated with the level of violence in school during childhood and adolescence; however, this association remained significant only in the univariate analysis, failing to reach significance in the final model. Among another mixed age sample, Charak et al. (2023) found that harassment based on gender expression was positively associated with all symptom clusters of PTSD and disturbances in self-organization. Similarly, deVries et al. (2022) showed that experiencing threats and violence significantly increased levels of mental distress. However, while bullying at school was significantly associated with high mental distress, the same experiences at college or at work showed less salient or nonsignificant associations with mental distress. Finally, in the study by Bouman et al. (2017), victimization was not found to be significantly associated with anxiety disorder among TGD individuals aged 15 to 79 years old, attending a transgender health service in the UK.

### 3.6.3. Proximal factors

Associations between proximal stressors and mental health were reported by 12 studies (40%). Three studies (Hunter et al., 2021; Jäggi et al., 2018; Scandurra et al., 2020) reported proximal minority stress as an overall score, measuring internalized transphobia, negative expectations, and nondisclosure. For all other studies, forms of proximal stress factors measured included: internalized transphobia or transnegativity (de Lange et al., 2022; Garro et al., 2022; Helsen et al., 2022; Hunter et al., 2021; Jäggi et al., 2018; Scandurra et al., 2017, 2020), daily internalized stigma (Kiekens et al., 2022), heteronormative attitudes and beliefs (Hunter et al., 2021), negative expectations (Hunter et al., 2021; Jäggi et al., 2018; Scandurra et al., 2020), expectations of rejection (Helsen et al., 2022) daily expectations of rejection (Kiekens et al., 2022), consciousness of stigma (Collet et al., 2023; de Lange et al., 2022), concealment of TGD identity (Bränström & Pachankis, 2021; Helsen et al., 2022), daily concealment (Kiekens et al., 2022), nondisclosure (Hunter et al., 2021; Jäggi et al., 2018; Scandurra et al., 2020), and openness with TGD identity (Zeluf et al., 2016).

Overall proximal minority stress was found to be significantly associated with higher levels of anxiety (Hunter et al., 2021; Scandurra et al., 2020) and depression (Hunter et al., 2021; Jäggi et al., 2018; Scandurra et al., 2020), with a stronger relationship observed with depression (Hunter et al., 2021). In this regard, Helsen et al. (2022) showed that, in a sample of Flemish and Dutch TGD adults ( $N = 143$ ), proximal minority stress explained about one third of the variance in mental health difficulties. Additionally, in a sample of Swiss TGD people an indirect effect

was found, as proximal stressors significantly mediated the association between distal stressors and depressive symptoms (Jäggi et al., 2018).

**Expectation of Rejection.** Four studies (13.3%) reported on the association between expectation of rejection and mental health outcomes. Helsen et al. (2022) found that the expectation of rejection was significantly associated with mental health problems. de Lange et al. (2022) observed that young adults with higher scores of stigma consciousness were more likely to report past-year suicidal ideation and attempts. However, no significant associations were detected by Kiekens et al. (2022) and Collet et al. (2023).

**Internalized Stigma.** Four studies (13.3%) provided significant evidence of internalized transphobia as a risk factor for mental health. Drawing from a sample of Italian TGD people ( $N = 149$ ), Scandurra et al. (2017) found that internalized transphobia was associated with increased mental health problems. Specifically, higher scores of shame were associated with higher scores on anxiety, depression, and suicidal ideation, while alienation was associated with anxiety and depression; however, passing was not found to be significantly associated with mental health outcomes. Internalized stigma was also shown to be related to increased levels of health difficulties (Helsen et al., 2022) and lower levels of psychological well-being (Garro et al., 2022). An association with mental distress was found by deVries et al. (2022), but this did not remain significant when self-esteem was included in the regression model.

**Concealment.** Five studies (16.67%) reported on identity concealment, with one study (deVries et al., 2022) identifying an association between not being out and mental distress. By contrast, in the Swedish study by Zeluf et al. (2016), openness with TGD identity was not associated with any of the health outcomes considered (i.e., self-rated health, self-reported disability, and quality of life). Similarly, no significant association between concealment and mental health difficulties was found by Helsen et al. (2022). Interestingly, Kiekens et al. (2022) found significant associations between daily experiences with identity concealment and lower odds of daily alcohol use among AMAB participants (Kiekens et al., 2022). An indirect effect was reported in the cross-European study by Bränström and Pachankis (2021), with identity concealment mediating the association between higher structural stigma and lower life satisfaction, although data also showed an association between identity concealment and lower day-to-day discrimination.

### 3.6.4. Other risk variables

Three studies (10%) found that being AFAB was associated with higher levels of negative mental health outcomes (Arcelus et al., 2016; Hunter et al., 2021; Levitan et al., 2019). In addition, Witcomb et al. (2019) observed that experiences of bullying were more likely to affect the AFAB participants' well-being, whereas these results were not found among AMAB participants. Self-identifying as nonbinary emerged was found to be another significant factor associated with poor mental health. Four studies (13.3%) performing group comparisons between binary transgender individuals and nonbinary participants found that being nonbinary was significantly associated with negative mental health (Aparicio-García et al., 2018; Jäggi et al., 2018; Scandurra et al., 2021; Zeluf et al., 2016). However, evidence from a Polish TGD sample seemed to contradict these findings, as nonbinary identity was found to be associated with lower levels of depression (Kozłara et al., 2021).

Younger age was identified as a risk factor for mental health in eight studies (26.67%). Among different generational cohorts of TGD individuals, Scandurra et al. (2021, 2023) and deVries et al. (2022) observed that younger participants reported higher levels of mental health problems than older participants. In a clinical sample attending a public gender identity unit in Spain, a significant negative correlation was found between age and social anxiety disorder (Bergero-Miguel et al., 2016). Furthermore, within a sample of Polish TGD persons, Kozłara et al. (2022) observed that age was positively associated with self-esteem and resilience, and negatively with depressive symptoms. In another clinical sample of individuals with gender dysphoria, Başar and

Öz (2016) found that psychological resilience scores increased with age, although the relation was weak. Age-group analysis was performed by Brokjøb and Cornelissen (2022), who revealed that gender dysphoria fully mediated the relationship between minority stress and all considered psychopathologies when only older participants were included. Otherwise, for the younger age group, minority stress appeared to be the factor most strongly associated with anxiety, depression, and eating disorders, with gender dysphoria having no role in the mediation model. Moreover, in a sample of clinically referred adolescents in Germany, Levitan et al. (2019) observed that adolescents with an advanced age showed more behavioral and emotional problems.

### 3.6.5. Resilience factors

Seventeen studies (56.67%) reported on individual and group resilience factors against minority stress. Forms of individual resilience factors measured included: pride (Scandurra et al., 2020), self-esteem (Arcelus et al., 2016; Bouman et al., 2017; deVries et al., 2022; Kozłara et al., 2022, 2021), resilience (Başar & Öz, 2016; Collet et al., 2023; Kozłara et al., 2022, 2021; Scandurra et al., 2017), and transition (Başar & Öz, 2016; Bergero-Miguel et al., 2016; Bouman et al., 2017; Collet et al., 2023; Levitan et al., 2019). Forms of group resilience factors measured included social support (Arcelus et al., 2016; Başar & Öz, 2016; Bergero-Miguel et al., 2016; Bouman et al., 2017; Collet et al., 2023; Garro et al., 2022; Scandurra et al., 2017, 2020, 2023; Zeluf et al., 2016) and community connectedness (Helsen et al., 2022; Scandurra et al., 2020; Ünsal et al., 2023). Two studies (6.67%) reported individual and group resilience factors as an overall score, using the *Resilience* subscales of the GMSR (Testa et al., 2015), which assesses pride and community connectedness. Specifically, Hunter et al. (2021) found that resilience scores were significantly associated with well-being, but not with lower anxiety or depression. However, the moderated model tested by Jäggi et al. (2018) failed to detect a moderating effect of resilience factors.

**Individual Resilience Factors.** Seven studies (23.3%) reported on individual factors promoting psychological resilience. One study (3.3%) examined pride as an individual protective factor, finding a significant negative association with depression, but not with anxiety (Scandurra et al., 2020). The relationship between self-esteem and mental health variables was investigated by 3 studies (10%), which obtained consistent results. Low levels of self-esteem were found to be associated with psychopathology (Arcelus et al., 2016) and anxiety disorder (Bouman et al., 2017). Additionally, in a young TGD sample, Arcelus et al. (2016) found that low levels of self-esteem were associated with non-suicidal self-injury. An inverse correlation of self-esteem with mental distress was found by deVries et al. (2022). In an Italian TGD sample, higher scores on the *Resilience Scale* (Wagnild & Young, 1993) were shown to significantly moderate the association of everyday discrimination with depression and suicide ideation (Scandurra et al., 2017).

Transitioning, either medically or socially, was examined as an individual resilience factor in five studies (16.67%). Başar and Öz (2016) findings indicated a positive relationship between psychological resilience and gender transition-related features in a small clinic-referred sample of individuals with gender dysphoria, with higher psychological resilience scores and lower levels of depressive symptoms and other mental health problems in participants that had disclosed their gender identity, accomplished social transition, and those that used hormones. Within a much larger sample of TGD people attending a transgender health service, Bouman et al. (2017) found that individuals (particularly transwomen) on treatment with cross-sex hormones reported lower levels of anxiety disorder symptomatology compared to those who did not use cross-sex hormones. Similarly, a longitudinal analysis conducted by Collet et al. (2023) found significant decreases in trait anxiety scores and suicidal thoughts/attempts and increases in resilience among transgender women who received short-term gender-affirming hormonal therapy. However, these results were not supported by the Spanish study by Bergero-Miguel et al. (2016), in which the negative

association between hormonal treatment and social anxiety did not reach a significant level. Similarly, among a clinic-referred sample of TGD individuals, the degree of transitioning socially was not significantly related to behavioral and emotional problems (Levitán et al., 2019).

**Group Resilience Factors.** Nine studies (30%) examined the association between social support and mental health outcomes, reporting mixed findings. Zeluf et al. (2016) found that lack of social support was significantly associated with lower quality of life. A negative correlation of social support with social anxiety disorders was detected by Bergero-Miguel et al. (2016), although only marginally significant. Collet et al. (2023) examined the effects of social network size, both online and offline, on mental health, and found that larger social networks were associated with fewer suicidal thoughts/attempts. Bränström et al. (2022) revealed that lack of social support served as a mediator between transgender status and both past 12-month suicidal ideation and suicide attempts. Garro et al. (2022) found that social support buffered the effect of internalized transphobia on psychological well-being. A moderating effect was also detected by Scandurra et al. (2017), who showed that support from family, but not from friends, significantly buffered the negative association between everyday discrimination and anxiety. However, Başar and Öz (2016) study seemed to contradict this finding, as, among different types of support, only peer support resulted to be strongly associated with psychological resilience, which in turn was inversely associated with depression. Other studies failed to find a significant association. Social support was found to be associated neither with anxiety disorder (Bouman et al., 2017) nor with non-suicidal self-injury engagement or psychopathology (Arcelus et al., 2016). Community connectedness as a resilience group factor was considered by 3 studies (10%), only one indicating a negative association with depression (Ünsal et al., 2023). A significant association with negative mental health outcomes was not found by Scandurra et al. (2020) nor by Helsen et al. (2022), who did not find a moderating effect on the association between proximal minority stress and mental health difficulties.

#### 4. Discussion

The current study is the first systematic review of the literature on the relationship between protective/risk factors and mental health problems among European TGD individuals according to the gender minority stress model (GMSM). The current work expands the results from a previous systematic review based on a US context (Valentine & Shipherd, 2018), lending support for applying the GMSM to understand TGD health disparities across the European countries. The results suggest a positive association of both distal and proximal minority stressors with a range of mental health problems affecting TGD people and provide evidence for the protective role of resilience factors in buffering these negative outcomes. The cross-sectional nature of most of the included studies made it difficult to establish causality and direction of relationships among variables, so the risk and protective factors discussed in the next paragraph are best conceptualized as correlates of mental health variables. However, the results of the three longitudinal studies included (Collet et al., 2023; Kiekens et al., 2022; Lloyd et al., 2019) provide a preliminary basis for inferring causality.

##### 4.1. Risk and protective factors

The results of this review revealed that distal stressors were positively associated with various mental health outcomes, including depression, anxiety, and suicidal ideation and attempts (Hunter et al., 2021; Jäggi et al., 2018; Kiekens et al., 2022; Scandurra et al., 2020; Zeluf et al., 2016). Specifically, several studies identified gendered discrimination as a risk factor for poor mental health (Bränström & Pachankis, 2021; Kneale & Bécarea, 2021; Lloyd et al., 2019; Scandurra et al., 2017), providing evidence for the health impact of social inequalities that TGD people generally experience in multiple domains

such as employment, school, and health care (Calderon-Cifuentes, 2021). More conflicting findings specifically regarded gender-related victimization, which appeared to be associated with mental health symptomatology especially when considering young samples (Arcelus et al., 2016; Bergero-Miguel et al., 2016; Witcomb et al., 2019), perhaps because young individuals are more sensitive to negative emotions than adults (Yuan et al., 2015). This may also explain the generational differences emerged in the rates of mental health problems, whereby younger age appears as a risk factor (Başar & Öz, 2016; Bergero-Miguel et al., 2016; deVries et al., 2022; Scandurra et al., 2021, 2023), in line with the results from other non-European studies (e.g., Jackman et al., 2018). Brøkjøb and Cornelissen (2022) highlighted the prominent role of minority stressors as risk factors for mental health problems among younger TGD people. Conversely, gender dysphoria seems to be associated with psychopathology for older TGD people, who have arguably internalized an increased pressure to conform to stereotypical feminine or masculine appearance (Brøkjøb & Cornelissen, 2022). This review also highlights the detrimental role of proximal stressors on European TGD populations (Hunter et al., 2021; Scandurra et al., 2020), showing both direct (Helsen et al., 2022) and indirect (Jäggi et al., 2018) associations with negative mental health outcomes. More specifically, internalized transphobia seems to be strongly associated with psychopathology among TGD people (deVries et al., 2022; Garro et al., 2022; Helsen et al., 2022; Scandurra et al., 2017), in line with the results from previous reviews (Inderbinen et al., 2021; Wolford-Clevenger et al., 2018).

Results seem to suggest a significant association between expectation of rejection and TGD people's mental health (de Lange et al., 2022; Helsen et al., 2022), although discrepancies in assessment strategies raise questions as to the accuracy of these findings. Indeed, de Lange et al. (2022) utilized an adapted version of the *Stigma Consciousness Questionnaire* (Pinel, 1999), while Helsen et al. (2022) used the 9-item negative expectations subscale of the GMSR measure (Testa et al., 2015).

Conversely, the negative association between concealment and mental health were found only in one study (deVries et al., 2022). Other studies examining this relationship failed to reach statistical significance (Helsen et al., 2022; Zeluf et al., 2016). One study observed a lower rate of daily alcohol use associated with daily experiences of identity concealment (Kiekens et al., 2022). These results seem to support the literature challenging the traditional assumptions regarding the negative mental outcomes associated with concealing TGD identity (Brennan et al., 2021). Moreover, Bränström and Pachankis (2021) showed that in European countries with high structural stigma, identity concealment may exert a protective effect on the exposure to discrimination, even if it is associated with lower life satisfaction. Our findings are consistent with other research studies suggesting that concealing one's identity is not detrimental per se to the well-being of TGD people, as it may reduce the risk of discrimination (Livingston et al., 2020; Puckett et al., 2016). In addition, it should be noted that for many TGD individuals concealing their transgender identity and blending as cisgender men or women can be identity-affirming, as it provides them with validation and recognition as members of the gender with which they identify (Rood, Maroney, et al., 2017).

This perspective may also help us explain the higher rates of mental health difficulties which tend to be generally associated with nonbinary gender identities (Aparicio-García et al., 2018; Jäggi et al., 2018; Scandurra et al., 2021; Zeluf et al., 2016). Indeed, blending into the binary-gendered environment can distress nonbinary individuals by erasing their identity and invalidating their felt gender. On the other hand, expressing their gender nonconformity, although it can feel more congruent, may make nonbinary individuals easier targets for potential victimization. Therefore, nonbinary individuals may simultaneously face challenges in remaining authentic and ensuring their personal safety (Flynn & Smith, 2021).

Regarding group-level resilience factors, results were not conclusive, as many of the included studies failed to detect a significant association

with adverse outcomes (Arcelus et al., 2016; Bergero-Miguel et al., 2016; Bouman et al., 2017; Helsen et al., 2022; Jäggi et al., 2018; Scandurra et al., 2020). In particular, community connectedness mostly showed to be unrelated to mental health measures (Helsen et al., 2022; Scandurra et al., 2020), in line with recent studies providing insight for a more nuanced understanding of its effects on TGD mental health (Chodzen et al., 2019; Valente et al., 2020). Indeed, proximity to the TGD community, although potentially ameliorating mental health concerns (Ünsal et al., 2023) (e.g., helping to think about own identities in more positive ways), might lead in some cases to harmful thought processes (e.g., resulting in increased preoccupation with others' perceptions), with a negative impact on the person's psychological well-being (Taber et al., 2023). Despite mixed evidence, social support emerged as a more significant resilience factor (Bergero-Miguel et al., 2016; Bränström et al., 2022; Collet et al., 2023; Zeluf et al., 2016), suggesting that TGD individuals might benefit from feeling connected to others who do not share their minority identity, such as family members (Scandurra et al., 2017) and peers (Başar & Öz, 2016). This might especially apply for those who conceal their story of gender transition and live as cisgender male or female (Inderbinen et al., 2021). In addition, our findings seem to suggest that there are differences between European countries in the main source of social support for TGD individuals. This discrepancy can be possibly attributed to cultural differences. For example, the main source of support for Italian TGD individuals seems to come from their family ties (Scandurra et al., 2017), on which Italian society generally places a greater emphasis compared to other contexts (Santarelli & Cottone, 2009). Further research is needed to clarify the mechanisms underlying the different effects of group resilience factors, investigating how various aspects of community connectedness (e.g., emotional and behavioral participation) and sources of support differently relate to mental health outcomes. However, individual resilience factors (i.e., self-esteem, pride, and transitioning) seem to have a clearer role in buffering the stressors (Arcelus et al., 2016; Başar & Öz, 2016; Bouman et al., 2017; Collet et al., 2023; deVries et al., 2022; Scandurra et al., 2020), thus confirming the essential function of personal resources to cope with minority stress and overcome mental health risks. Further studies need to emphasize such positive factors more and integrate MST with additional theoretical perspectives (e.g., positive psychology) (Meyer, 2014), which could promote a more comprehensive understanding of TGD as a flourishing population and not just as people struggling with stigma-related problems. Finally, this review seems to support the role of female birth-assigned sex as a risk factor for negative mental health outcomes (Arcelus et al., 2016; Hunter et al., 2021; Levitan et al., 2019; Witcomb et al., 2019). The reasons for this widely observed trend remain unclear (De Graaf et al., 2017). More research in this field is needed to elucidate the specific vulnerabilities and unique stressors underlying these health disparities in the European TGD population.

#### 4.2. Methodological biases of the selected studies

The most common design in the reviewed literature is cross-sectional, meaning that no causal inference can be drawn. Additionally, most of the examined studies lack a control group. Notably, none of the selected papers were published prior to 2015, suggesting that interest in this research field has significantly grown in Europe over the last decade. Therefore, this review confirmed that the sampling methods represent a main methodological concern in the research on the TGD population, with significant limitations in the representativeness and generalizability of the studies. In this regard, potential biases could stem from recruitment methods involving clinic-referred youth only, using convenience sampling only through online recruiting methods (Andrade, 2020), and LGBTQ+ community-limited recruitments. Remarkably, intersectionality of multiple minority identities, which was rarely addressed by researchers, should be consistently addressed in future studies, given that TGD individuals belonging to ethnic minority

groups may experience additional risk factors linked to racial prejudice, which is in turn associated with increased risk of mental health problems (Rosati et al., 2021). Moreover, several included studies tended to blur the differences in the experiences of binary transgender individuals and nonbinary people, whose differences have been however scientifically recognized (Scandurra et al., 2019). Finally, this review highlighted the inconsistent use of instruments in measurement of the various GSM dimensions (e.g., employing validated questionnaires vs. relying on assessment tools that are not standardized or not specifically tailored to the GSM).

#### 4.3. Limitations

There are some limitations to our systematic review that should be considered when interpreting its results. First, the literature search was conducted in three databases (i.e., PsycINFO, PubMed, and Scopus). This strategy may have failed to identify relevant studies that were not covered in these databases. Second, the review is limited to English studies published in peer-reviewed, indexed journals, so the results from studies published in other languages and grey literature may have been missed. Another limitation was the exclusion of qualitative data, which could have complemented our findings or provided some additional insights. The heterogeneity in measuring the different components of the GSM makes the comparability of findings questionable, and precluded meta-analysis. Notably, the articles included in the current review do not cover the whole European continent, with most of the studies being conducted in Western Europe (i.e., UK, Italy, and The Netherlands). Differences exist as to the levels of sociopolitical discrimination within the European continent. Such overrepresentation must be taken into account when considering the results of the current review. As a result, more research performed in non-Western European countries is needed to verify the applicability of the GSM to other sociopolitical environments. Finally, in most of the selected papers the ethnicity of the samples was not reported, and, among the few studies providing demographic information, participants were predominantly Caucasian, which did not allow us to verify the role of intersections between ethnic minority-related stigma and stigma related to gender minority status.

#### 4.4. Research recommendations

Following, we provide some research recommendations based on the findings of the current systematic review. First, this systematic review highlights the need to expand the number of European studies focusing on the relationship between gender minority stress and mental health outcomes among TGD people. Second, more cross-national investigations (e.g., Bränström & Pachankis, 2021) should be performed to identify differences concerning the association between minority stress factors and mental health between various European countries. Third, the evidence provided by this systematic review seems to suggest that GSM might represent a recommendable theoretical basis for research in this field, as it helps us elucidate the pathways that might link stigma to poor mental health outcomes among TGD individuals. Fourth, higher quality findings might be obtained in future studies by recruiting probability samples and including cisgender individuals as control groups, thus reducing the bias and improving generalizability. Fifth, more longitudinal studies might allow researchers to establish causal relationships between stigmatizing processes, protective factors, and health outcomes, also detecting possible changes in these relationships across different life stages. In particular, additional insight might be provided on the buffering effects of gender transitioning on mental health over time, given the young age at which gender affirming social and/or medical procedures may be started and their long-term implications (Coleman et al., 2022). Longitudinal designs also hold the potential to clarify the effect of concealment on mental health, as being open about one's own TGD identity prior to and after transition may relate differently to mental health (Matsumo & Israel, 2018). Sixth, as

highlighted in this review, identifying as binary transgender or nonbinary, as well as being AMAB or AFAB, are fundamental variables that should be considered when designing and analyzing research in this field. Since gender identity is a highly variable and not homogenous category, and that the terminology surrounding gender rapidly evolves, constant revision of validated assessment tools is required (e.g., by rendering language more inclusive of the various TGD identities and experiences). Seventh, the multiple stigma experienced by European TGD individuals holding various marginalized identities should be investigated, in order to detect their joint effect on mental health. Eighth, the lack of studies investigating interventions designed to reduce the effects of minority stress and improve the mental health of TGD individuals represents a substantial dearth in European research that should be addressed in order to enhance clinical practice in this area. Finally, the existing qualitative evidence in this field should also be reviewed, since it can offer valuable insights by exploring participants' experiences, perceptions, and subjective interpretation of gender minority stress.

#### 4.5. Clinical recommendations

From a clinical perspective, professionals treating TGD people should be familiar with GSM, being aware that these patients are at higher risk for mental health difficulties as a result of the social stressors imposed by cisnormative societies. Applying the GSM to clinical practice implies carefully assessing the potential impact of distal and proximal stressors on the patient's psychosocial functioning, thus strengthening resilience and coping strategies. Developing a positive self-image, seeking acceptance and support from family, and maintaining social relationships are important areas to work on with the person related to identity-based stigma to mitigate the risk of negative mental health.

Patients seeking medical intervention could be provided with knowledge and information about medical intervention options and assisted in finding affirming resources for transition. The benefits and risks associated with disclosure or concealment in various life domains should be carefully considered by clinicians and patients together, keeping in mind that these processes involve complex decision-making processes and that individuals should not be expected to come out as TGD in all contexts they experience. Clinicians could also encourage TGD people to take full advantage of connecting with the TGD community to help them manage their potentially difficult aspects (Taber et al., 2023).

Advocacy efforts should be made at a broader level by mental health professionals to encourage inclusive practices within the healthcare system and to improve TGD people's access to social and health resources. Wider sociopolitical change is needed to decrease the stigmatization that TGD individuals experience at a structural level. Future studies, in conjunction with some Europe-wide organizations, such as the advocacy group International Lesbian, Gay, Bisexual, Trans and Intersex Association (ILGA-Europe) and the Transgender Europe (TGEU) network, should consider policy analyses to better understand the responsiveness of European social and health systems in encouraging comprehensive policies to protect and support the health and well-being of TGD people.

#### 5. Conclusions

The results of this systematic review suggest that minority stress factors are significantly related to various mental health problems, including depression, anxiety, and suicidal tendencies among European TGD population, and that resilience factors might buffer these harmful effects, contributing to the person's psychological well-being. Although the life conditions of TGD people living in Europe have been increasingly improving over the last few decades, the TGD population continues to face pervasive stigma, which dramatically impacts mental health by

limiting the access to resources and generating cumulative, chronic stress. Significant work needs to be done to contrast the health inequalities stemming from gender related-stigmatization processes and to strengthen the convergence of TGD people's living standards across European countries. Enhancing research in this field and building a solid theoretical understanding of these processes is crucial to not only implement effective mental health care protocols and community initiatives targeting this at-risk population, but also to lay foundations for innovative and inclusive social policies, informed by the common intent to move toward the destigmatization of gender nonconformity.

#### Role of funding sources

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

#### CRediT authorship contribution statement

**Fabrizio Mezza:** Conceptualization, Data curation, Investigation, Methodology, Project administration, Writing – original draft. **Selene Mezzalana:** Conceptualization, Data curation, Investigation, Methodology, Writing – original draft. **Rosa Pizzo:** Conceptualization, Data curation, Investigation, Methodology, Writing – original draft. **Nelson Mauro Maldonato:** Investigation, Supervision, Writing – review & editing. **Vincenzo Bochicchio:** Investigation, Supervision, Writing – review & editing. **Cristiano Scandurra:** Conceptualization, Writing – review & editing, Investigation, Methodology, Project administration, Supervision.

#### Declaration of Competing Interest

The authors declare that they have no conflict of interest.

#### Data availability

Data will be made available on request.

#### References

- American Psychological Association. (2015). Guidelines for psychological practice with transgender and gender nonconforming people. *American Psychologist*, 70(9), 832–864. <https://doi.org/10.1037/a0039906>
- Andrade, C. (2020). The limitations of online surveys. *Indian Journal of Psychological Medicine*, 42(6), 575–576. <https://doi.org/10.1177/0253717620957496>
- Aparicio-García, M. E., Díaz-Ramiro, E. M., Rubio-Valdehita, S., López-Núñez, M. I., & García-Nieto, I. (2018). Health and well-being of cisgender, transgender and non-binary young people. *International Journal of Environmental Research and Public Health*, 15(10), 2133. <https://doi.org/10.3390/ijerph15102133>
- Arcelus, J., Claes, L., Witcomb, G. L., Marshall, E., & Bouman, W. P. (2016). Risk factors for non-suicidal self-injury among trans youth. *The Journal of Sexual Medicine*, 13(3), 402–412. <https://doi.org/10.1016/j.jsxm.2016.01.003>
- Balsam, K. F., Beadnell, B., & Molina, Y. (2013). The daily heterosexist experiences questionnaire: Measuring minority stress among lesbian, gay, bisexual, and transgender adults. *Measurement and Evaluation in Counseling and Development*, 46(1), 3–25. <https://doi.org/10.1177/0748175612449743>
- Başar, K., & Öz, G. (2016). Resilience in individuals with gender dysphoria: Association with perceived social support and discrimination. *TürkPsikiyatriDergisi*, 27(4). <https://doi.org/10.5080/u17071>
- Bergero-Miguel, T., García-Encinas, M. A., Villena-Jimena, A., Pérez-Costillas, L., Sánchez-Álvarez, N., de Diego-Otero, Y., & Guzman-Parra, J. (2016). Gender dysphoria and social anxiety: An exploratory study in Spain. *The Journal of Sexual Medicine*, 13(8), 1270–1278. <https://doi.org/10.1016/j.jsxm.2016.05.009>
- Bockting, W. O., Miner, M. H., Swinburne Romine, R. E., Dolezal, C., Robinson, B. B. E., Rosser, B. S., & Coleman, E. (2020). The Transgender Identity Survey: A measure of internalized transphobia. *LGBT Health*, 7(1), 15–27. <https://doi.org/10.1089/lgbt.2018.0265>
- Bockting, W. O., Miner, M. H., Swinburne Romine, R. E., Hamilton, A., & Coleman, E. (2013). Stigma, mental health, and resilience in an online sample of the US transgender population. *American Journal of Public Health*, 103(5), 943–951. <https://doi.org/10.2105/AJPH.2013.301241>
- Bouman, W. P., Claes, L., Brewin, N., Crawford, J. R., Millet, N., Fernandez-Aranda, F., & Arcelus, J. (2017). Transgender and anxiety: A comparative study between transgender people and the general population. *International Journal of Transgenderism*, 18(1), 16–26. <https://doi.org/10.1080/15532739.2016.1258352>

- Bränström, R., & Pachankis, J. E. (2021). Country-level structural stigma, identity concealment, and day-to-day discrimination as determinants of transgender people's life satisfaction. *Social Psychiatry and Psychiatric Epidemiology*, 56(9), 1537–1545. <https://doi.org/10.1007/s00127-021-02036-6>
- Bränström, R., Stormbom, I., Bergendal, M., & Pachankis, J. E. (2022). Transgender-based disparities in suicidality: A population-based study of key predictions from four theoretical models. *Suicide and Life-threatening Behavior*, 52(3), 401–412. <https://doi.org/10.1111/sltb.12830>
- Brennan, J. M., Dunham, K. J., Bowlen, M., Davis, K., Ji, G., & Cochran, B. N. (2021). Inconcealable: A cognitive-behavioral model of concealment of gender and sexual identity and associations with physical and mental health. *Psychology of Sexual Orientation and Gender Diversity*, 8(1), 80. <https://doi.org/10.1037/sgd0000424>
- Brokjøl, L. G., & Cornelissen, K. K. (2022). Internalizing minority stress: Gender dysphoria, minority stress, and psychopathology in a Norwegian transgender population. *Psychology of Sexual Orientation and Gender Diversity*, 9(3), 272. <https://doi.org/10.1037/sgd0000480>
- Brooks, V. R. (1981). *Minority stress and lesbian women*. Lexington, MA: Lexington Books.
- Calderon-Cifuentes, P. A. (2021). Trans Discrimination in Europe. A TGEU analysis of the FRA LGBTI Survey 2019. TGEU <https://tgeu.org/tgeu-publishes-report-on-trans-discrimination-in-europe/>.
- Charak, R., Cano-Gonzalez, I., Ronzón-Tirado, R., Ford, J. D., Byllesby, B. M., Shevlin, M., ... Cloitre, M. (2023). Factor structure of the international trauma questionnaire in trauma exposed LGBTQ+ adults: Role of cumulative traumatic events and minority stress heterosexual experiences. *Psychological Trauma Theory Research Practice and Policy*. <https://doi.org/10.1037/tra0001440>
- Chodzen, G., Hidalgo, M. A., Chen, D., & Garofalo, R. (2019). Minority stress factors associated with depression and anxiety among transgender and gender-nonconforming youth. *Journal of Adolescent Health*, 64(4), 467–471. <https://doi.org/10.1016/j.jadohealth.2018.07.006>
- Cohen, J. (1960). A coefficient of agreement for nominal scales. *Educational and Psychological Measurement*, 20(1), 37–46. <https://doi.org/10.1177/001316446002000104>
- Coleman, E., Radix, A. E., Bouman, W. P., Brown, G. R., De Vries, A. L. C., Deutsch, M. B., ... Arcelus, J. (2022). Standards of care for the health of transgender and gender diverse people, version 8. *International Journal of Transgender Health*, 23(Suppl. 1), S1–S259. <https://doi.org/10.1080/26895269.2022.2100644>
- Collet, S., Kiyar, M., Martens, K., Vangeneugden, J., Simpson, V. G., Guillaum, A., ... T'Sjoen, G. (2023). Gender minority stress in transgender people: A major role for social network. *The Journal of Sexual Medicine*, 20(6), 905–917. <https://doi.org/10.1093/jsxmed/qdad043>
- Collin, L., Reinsner, S. L., Tangpricha, V., & Goodman, M. (2016). Prevalence of transgender depends on the “case” definition: A systematic review. *The Journal of Sexual Medicine*, 13(4), 613–626. <https://doi.org/10.1016/j.jsxm.2016.02.001>
- De Graaf, N. M., Cohen-Kettenis, P. T., Carmichael, P., de Vries, A. L. C., Dhondt, K., Laridaen, J., ... Steensma, T. D. (2017). Psychological functioning in adolescents referred to specialist gender identity clinics across Europe: A clinical comparison study between four clinics. *European Child & Adolescent Psychiatry*, 27(7), 909–919. <https://doi.org/10.1007/s00787-017-1098-4>
- de Vries, Steensma, T. D., Cohen-Kettenis, P. T., VanderLaan, D. P., & Zucker, K. J. (2016). Poor peer relations predict parent- and self-reported behavioral and emotional problems of adolescents with gender dysphoria: A cross-national, cross-clinic comparative analysis. *European Child & Adolescent Psychiatry*, 25(6), 579–588. <https://doi.org/10.1007/s00787-015-0764-7>
- deLira, A. N., & de Morais, N. A. (2018). Resilience in lesbian, gay, and bisexual (LGB) populations: An integrative literature review. *Sexuality Research & Social Policy*, 15(3), 272–282. <https://doi.org/10.1007/s13178-017-0285-x>
- deVries, J. M., Downes, C., Sharek, D., Doyle, L., Murphy, R., Begley, T., ... Higgins, A. (2022). An exploration of mental distress in transgender people in Ireland with reference to minority stress and dissonance theory. *International Journal of Transgender Health*, 1-18. <https://doi.org/10.1080/26895269.2022.2105772>
- Dhejne, C., Van Vlerken, R., Heylens, G., & Arcelus, J. (2016). Mental health and gender dysphoria: A review of the literature. *International Review of Psychiatry*, 28(1), 44–57. <https://doi.org/10.3109/09540261.2015.1115753>
- European Union Agency for Fundamental Rights. (2020). EU-LGBTI II: A long way to go for LGBTI equality. <https://fra.europa.eu/en/publication/2020/eu-lgbti-survey-results>.
- Flynn, S., & Smith, N. G. (2021). Interactions between blending and identity concealment: Effects on non-binary people's distress and experiences of victimization. *PLoS One*, 16(3), Article e0248970. <https://doi.org/10.1371/journal.pone.0248970>
- Frost, D. M., & Meyer, I. H. (2012). Measuring community connectedness among diverse sexual minority populations. *Journal of Sex Research*, 49(1), 36–49. <https://doi.org/10.1080/00224499.2011.565427>
- Garro, M., Novara, C., Di Napoli, G., Scandurra, C., Bochicchio, V., & Lavanco, G. (2022). The role of internalized transphobia, loneliness, and social support in the psychological well-being of a group of Italian transgender and gender non-conforming youths. *Healthcare*, 10, 2282. <https://doi.org/10.3390/healthcare10112282>
- Goldberg, A. E., Kuvalanka, K. A., Budge, S. L., Benz, M. B., & Smith, J. Z. (2019). Health care experiences of transgender binary and nonbinary university students. *The Counseling Psychologist*, 47(1), 59–97. <https://doi.org/10.1177/0011000019827568>
- Gonzalez, C. A., Gallego, J. D., & Bockting, W. O. (2017). Demographic characteristics, components of sexuality and gender, and minority stress and their associations to excessive alcohol, cannabis, and illicit (noncannabis) drug use among a large sample of transgender people in the United States. *The Journal of Primary Prevention*, 38(4), 419–445. <https://doi.org/10.1007/s10935-017-0469-4>
- Goodman, M., Adams, N., Cornell, T., Kreukels, B., Motmans, J., & Coleman, E. (2019). Size and distribution of transgender and gender nonconforming populations. *Endocrinology and Metabolism Clinics of North America*, 48(2), 303–321. <https://doi.org/10.1016/j.ecl.2019.01.001>
- Gosling, H., Pratt, D., Montgomery, H., & Lea, J. (2021). The relationship between minority stress factors and suicidal ideation and behaviours amongst transgender and gender non-conforming adults: A systematic review. *Journal of Affective Disorders*, 303, 31–51. <https://doi.org/10.1016/j.jad.2021.12.091>
- Griffin, J. A., Casanova, T. N., Eldridge-Smith, E. D., & Stepleman, L. M. (2019). Gender minority stress and health perceptions among transgender individuals in a small metropolitan southeastern region of the United States. *Transgender Health*, 4(1), 247–253. <https://doi.org/10.1089/trgh.2019.0028>
- Hatzenbuehler, M. L. (2009). How does sexual minority stigma “get under the skin”? A psychological mediation framework. *Psychological Bulletin*, 135(5), 707. <https://doi.org/10.1037/a0016441>
- Helsen, V., Enzlin, P., & Gijs, L. (2022). Mental health in transgender adults: The role of proximal minority stress, community connectedness, and gender nonconformity. *Psychology of Sexual Orientation and Gender Diversity*, 9(4), 466–477. <https://doi.org/10.1037/sgd0000530>
- Hendricks, M. L., & Testa, R. J. (2012). A conceptual framework for clinical work with transgender and gender nonconforming clients: An adaptation of the Minority Stress Model. *Professional Psychology: Research and Practice*, 43(5), 460–467. <https://doi.org/10.1037/a0029597>
- Heylens, G., Elaut, E., Kreukels, B. P., Paap, M. C., Cerwenka, S., Richter-Appelt, H., ... De Cuyper, G. (2014). Psychiatric characteristics in transsexual individuals: Multicentre study in four European countries. *The British Journal of Psychiatry*, 204(2), 151–156. <https://doi.org/10.1192/bjp.bp.112.121954>
- Hill, D. B. (2002). Genderism, transphobia, and gender bashing: A framework for interpreting anti-transgender violence. In B. C. Wallace, & R. T. Carter (Eds.), *Understanding and dealing with violence: A multicultural approach* (pp. 113–136). Thousand Oaks, CA: Sage.
- Hoy-Ellis, C. P. (2023). Minority stress and mental health: A review of the literature. *Journal of Homosexuality*, 70(5), 806–830. <https://doi.org/10.1080/00918369.2021.2004794>
- Hughto, J. M. W., Reinsner, S. L., & Pachankis, J. E. (2015). Transgender stigma and health: A critical review of stigma determinants, mechanisms, and interventions. *Social Science & Medicine*, 147, 222–231. <https://doi.org/10.1016/j.socscimed.2015.11.010>
- Hunter, J., Butler, C., & Cooper, K. (2021). Gender minority stress in trans and gender diverse adolescents and young people. *Clinical Child Psychology and Psychiatry*, 26(4), 1182–1195. <https://doi.org/10.1177/13591045211033187>
- Inderbinen, M., Schaefer, K., Schneeberger, A., Gaab, J., & García Nuñez, D. (2021). Relationship of internalized transnegativity and protective factors with depression, anxiety, non-suicidal self-injury and suicidal tendency in trans populations: A systematic review. *Frontiers in Psychiatry*, 12, Article 636513. <https://doi.org/10.3389/fpsy.2021.636513>
- Jackman, K. B., Dolezal, C., & Bockting, W. O. (2018). Generational differences in internalized transnegativity and psychological distress among feminine spectrum transgender people. *LGBT Health*, 5(1), 54–60. <https://doi.org/10.1089/1089-1089.2017.0034>
- Jäggi, T., Jellestad, L., Corbisiero, S., Schaefer, D. J., Jenewein, J., Schneeberger, A., ... García Nuñez, D. (2018). Gender minority stress and depressive symptoms in transitioned Swiss transpersons. *BioMed Research International*, 8639263. <https://doi.org/10.1155/2018/8639263>
- Kiekens, W. J., Baams, L., & Veenstra, R. (2022). Differences by sex and gender in the association between minority stress and alcohol use among sexual and gender minority youth: A daily diary study. *Social Science & Medicine*, 294, Article 114679. <https://doi.org/10.1016/j.socscimed.2021.114679>
- Kneale, D., & Bécáres, L. (2021). Discrimination as a predictor of poor mental health among LGBTQ+ people during the COVID-19 pandemic: Cross-sectional analysis of the online Queerantime study. *BMJ Open*, 11(6), Article e049405. <https://doi.org/10.1136/bmjopen-2021-049405>
- Koziara, K., Mijas, M. E., Galbarczyk, A., Wycisk, J., Pliczko, M. P., Krzych-Miikowska, K., & Grabski, B. (2022). It gets better with age: Resilience, stigma, and mental health among lesbian, gay, bisexual, transgender and queer persons from Poland. *Frontiers in Psychology*, 5748. <https://doi.org/10.3389/fpsyg.2022.958601>
- Koziara, K., Mijas, M. E., Wycisk, J., Pliczko, M. P., & Grabski, B. (2021). Exploring health and transition-related needs in Polish transgender and non-binary individuals. *The Journal of Sexual Medicine*, 18(6), 1110–1121. <https://doi.org/10.1016/j.jsxm.2021.04.001>
- de Lange, J., Baams, L., Bos, H., Bosker, R., Dumon, E., Portzky, G., ... Van Bergen, D. (2022). Moderating role of coping in the association between minority stress and suicidal ideation and suicide attempts among sexual and gender minority young adults. *Suicide and Life-threatening Behavior*, 52(6), 1178–1192. <https://doi.org/10.1111/sltb.12913>
- Levitán, N., Barkmann, C., Richter-Appelt, H., Schulte-Markwort, M., & Becker-Hebly, I. (2019). Risk factors for psychological functioning in German adolescents with gender dysphoria: Poor peer relations and general family functioning. *European Child & Adolescent Psychiatry*, 28(11), 1487–1498. <https://doi.org/10.1007/s00787-019-01308-6>
- Livingston, N. A., Flentje, A., Brennan, J., Mereish, E. H., Reed, O., & Cochran, B. N. (2020). Real-time associations between discrimination and anxious and depressed mood among sexual and gender minorities: The moderating effects of lifetime victimization and identity concealment. *Psychology of Sexual Orientation and Gender Diversity*, 7(2), 132–141. <https://doi.org/10.1037/sgd0000371>

- Lloyd, J., Chalklin, V., & Bond, F. W. (2019). Psychological processes underlying the impact of gender-related discrimination on psychological distress in transgender and gender nonconforming people. *Journal of Counseling Psychology*, 66(5), 550. <https://doi.org/10.1037/cou0000371>
- Matsuno, E., & Israel, T. (2018). Psychological interventions promoting resilience among transgender individuals: Transgender resilience intervention model (TRIM). *The Counseling Psychologist*, 46(5), 632–655. <https://doi.org/10.1177/0011000018787261>
- McNeil, J., Ellis, S. J., & Eccles, F. J. R. (2017). Suicide in trans populations: A systematic review of prevalence and correlates. *Psychology of Sexual Orientation and Gender Diversity*, 4, 341–353. <https://doi.org/10.1037/sgd0000235>
- Meyer, I. H. (2003). Prejudice, social stress, and mental health in lesbian, gay, and bisexual populations: Conceptual issues and research evidence. *Psychological Bulletin*, 129(5), 674. <https://doi.org/10.1037/0033-2909.129.5.674>
- Meyer, I. H. (2007). Prejudice and discrimination as social stressors. In I. H. Meyer, & M. E. Northridge (Eds.), *The health of sexual minorities: Public health perspectives on lesbian, gay, bisexual, and transgender populations* (pp. 242–267). Springer Science + Business Media. [https://doi.org/10.1007/978-0-387-31334-4\\_10](https://doi.org/10.1007/978-0-387-31334-4_10)
- Meyer, I. H. (2014). Minority stress and positive psychology: Convergences and divergences to understanding LGBT health. *Psychology of Sexual Orientation and Gender Diversity*, 1(4), 348–349. <https://doi.org/10.1037/sgd0000070>
- Meyer, I. H. (2015). Resilience in the study of minority stress and health of sexual and gender minorities. *Psychology of Sexual Orientation and Gender Diversity*, 2(3), 209. <https://doi.org/10.1037/sgd0000132>
- Millet, N., Longworth, J., & Arcelus, J. (2017). Prevalence of anxiety symptoms and disorders in the transgender population: A systematic review of the literature. *The International Journal of Transgenderism*, 18(1), 27–38. <https://doi.org/10.1080/15532739.2016.1258353>
- National Heart, Lung, and Blood Institute. (2014). *Quality assessment tool for observational cohort and cross-sectional studies*. Bethesda, MD: National Institutes of Health, Department of Health and Human Services.
- Page, M. J., McKenzie, J. E., Bossuyt, P. M., Boutron, I., Hoffmann, T. C., Mulrow, C. D., ... Moher, D. (2021). The PRISMA 2020 statement: An updated guideline for reporting systematic reviews. *BMJ*, 372, 71. <https://doi.org/10.1136/bmj.n71>
- Pinel, E. C. (1999). Stigma consciousness: The psychological legacy of social stereotypes. *Journal of Personality and Social Psychology*, 76(1), 114–128. <https://doi.org/10.1037/0022-3514.76.1.114>
- Puckett, J. A., Maroney, M. R., Levitt, H. M., & Horne, S. G. (2016). Relations between gender expression, minority stress, and mental health in cisgender sexual minority women and men. *Psychology of Sexual Orientation and Gender Diversity*, 3(4), 489. <https://doi.org/10.1037/sgd0000201>
- Rood, B. A., Maroney, M. R., Puckett, J. A., Berman, A. K., Reisner, S. L., & Pantalone, D. W. (2017). Identity concealment in transgender adults: A qualitative assessment of minority stress and gender affirmation. *American Journal of Orthopsychiatry*, 87(6), 704. <https://doi.org/10.1037/ort0000303>
- Rood, B. A., Reisner, S. L., Puckett, J. A., Surace, F. I., Berman, A. K., & Pantalone, D. W. (2017). Internalized transphobia: Exploring perceptions of social messages in transgender and gender-nonconforming adults. *International Journal of Transgenderism*, 18(4), 411–426. <https://doi.org/10.1080/15532739.2017.1329048>
- Rosati, F., Coletta, V., Pistella, J., Scandurra, C., Laghi, F., & Baiocco, R. (2021). Experiences of life and intersectionality of transgender refugees living in Italy: A qualitative approach. *International Journal of Environmental Research and Public Health*, 18(23), 12385. <https://doi.org/10.3390/ijerph182312385>
- Santarelli, E., & Cottone, F. (2009). Leaving home, family support and intergenerational ties in Italy: Some regional differences. *Demographic Research*, 21, 1–22. <https://doi.org/10.4054/DemRes.2009.21.1>
- Scandurra, C., Amodeo, A. L., Valerio, P., Bochicchio, V., & Frost, D. M. (2017). Minority stress, resilience, and mental health: A study of Italian transgender people. *Journal of Social Issues*, 73(3), 563–585. <https://doi.org/10.1111/josi.12232>
- Scandurra, C., Bochicchio, V., Amodeo, A. L., Esposito, C., Valerio, P., Maldonato, N. M., ... Vitelli, R. (2018). Internalized transphobia, resilience, and mental health: Applying the Psychological Mediation Framework to Italian transgender individuals. *International Journal of Environmental Research and Public Health*, 15(3), 508. <https://doi.org/10.3390/ijerph15030508>
- Scandurra, C., Bochicchio, V., Dolce, P., Caravà, C., Vitelli, R., Testa, R. J., & Balsam, K. F. (2020). The Italian validation of the gender minority stress and resilience measure. *Psychology of Sexual Orientation and Gender Diversity*, 7(2), 208. <https://doi.org/10.1037/sgd0000366>
- Scandurra, C., Carbone, A., Baiocco, R., Mezzalana, S., Maldonato, N. M., & Bochicchio, V. (2021). Gender identity milestones, minority stress and mental health in three generational cohorts of Italian binary and nonbinary transgender people. *International Journal of Environmental Research and Public Health*, 18(17), 9057. <https://doi.org/10.3390/ijerph18179057>
- Scandurra, C., Esposito, C., Fantacci, F., Borrello, L., Bochicchio, V., Giunti, D., & Antonelli, P. (2023). Social support, identity affirmation, and psychological well-being: A developmental and intersectional comparison between Italian cisgender and non-binary people with bisexual orientation. *International Journal of Environmental Research and Public Health*, 20(4), 3237. <https://doi.org/10.3390/ijerph20043237>
- Scandurra, C., Mezza, F., Maldonato, N. M., Bottone, M., Bochicchio, V., Valerio, P., & Vitelli, R. (2019). Health of non-binary and genderqueer people: A systematic review. *Frontiers in Psychology*, 10, 1453. <https://doi.org/10.3389/fpsyg.2019.01453>
- Taber, J. L., Gao, S., Lynn, S. G., Brusche, D. R., & Stults, C. B. (2023). Community connectedness and depression in transgender populations: The role of self-focused attention. *Journal of Social and Personal Relationships*, 40(6), 1875–1896. <https://doi.org/10.1177/02654075221135219>
- Tankersley, A. P., Grafsky, E. L., Dike, J., & Jones, R. T. (2021). Risk and resilience factors for mental health among transgender and gender nonconforming (TGNC) youth: A systematic review. *Clinical Child and Family Psychology Review*, 24(2), 183–206. <https://doi.org/10.1007/s10567-021-00344-6>
- Testa, R. J., Habarth, J., Peta, J., Balsam, K., & Bockting, W. (2015). Development of the gender minority stress and resilience measure. *Psychology of Sexual Orientation and Gender Diversity*, 2(1), 65. <https://doi.org/10.1037/sgd0000081>
- Testa, R. J., Michaels, M. S., Bliss, W., Rogers, M. L., Balsam, K. F., & Joiner, T. (2017). Suicidal ideation in transgender people: Gender minority stress and interpersonal theory factors. *Journal of Abnormal Psychology*, 126(1), 125. <https://doi.org/10.1037/abn0000234>
- Ünsal, B. C., Demetrovics, Z., & Reinhardt, M. (2023). Stronger together: Community participation, structural stigma, and depression among sexual and gender minority adults in 28 European countries. *Social Psychiatry and Psychiatric Epidemiology*, 58(4), 657–669. <https://doi.org/10.1007/s00127-022-02385-w>
- Valente, P. K., Schrimshaw, E. W., Dolezal, C., LeBlanc, A. J., Singh, A. A., & Bockting, W. O. (2020). Stigmatization, resilience, and mental health among a diverse community sample of transgender and gender nonbinary individuals in the U.S. *Archives of Sexual Behavior*, 49(7), 2649–2660. <https://doi.org/10.1007/s10508-020-01761-4>
- Valentine, S. E., & Shepherd, J. C. (2018). A systematic review of social stress and mental health among transgender and gender non-conforming people in the United States. *Clinical Psychology Review*, 66, 24–38. <https://doi.org/10.1016/j.cpr.2018.03.003>
- Wagnild, G. M., & Young, H. M. (1993). Development and psychometric evaluation of the resilience scale. *Journal of Nursing Measurement*, 1(2), 165–178.
- Witcomb, G. L., Claes, L., Bouman, W. P., Nixon, E., Motmans, J., & Arcelus, J. (2019). Experiences and psychological wellbeing outcomes associated with bullying in treatment-seeking transgender and gender-diverse youth. *LGBT Health*, 6(5), 216–226. <https://doi.org/10.1089/lgbt.2018.0179>
- Wolford-Clevenger, C., Frantell, K., Smith, P. N., Flores, L. Y., & Stuart, G. L. (2018). Correlates of suicide ideation and behaviors among transgender people: A systematic review guided by ideation-to-action theory. *Clinical Psychology Review*, 63, 93–105. <https://doi.org/10.1016/j.cpr.2018.06.009>
- Yuan, J., Ju, E., Meng, X., Chen, X., Zhu, S., Yang, J., & Li, H. (2015). Enhanced brain susceptibility to negative stimuli in adolescents: ERP evidences. *Frontiers in Behavioral Neuroscience*, 9, 98. <https://doi.org/10.3389/fnbeh.2015.00098>
- Zeluf, G., Dhejne, C., Orre, C., Nilunger Mannheimer, L., Deogan, C., Höjjer, J., & Ekéus Thorson, A. (2016). Health, disability and quality of life among trans people in Sweden—a web-based survey. *BMC Public Health*, 16(1), 1–15. <https://doi.org/10.1186/s12889-016-3560-5>
- Zhang, Q., Goodman, M., Adams, N., Corneil, T., Hashemi, L., Kreukels, B., ... Coleman, E. (2020). Epidemiological considerations in transgender health: A systematic review with focus on higher quality data. *International Journal of Transgender Health*, 21(2), 125–137. <https://doi.org/10.1080/26895269.2020.1753136>