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Psychological counseling for post-traumatic stress disorder among Ukrainian refugees in Bălți, Republic of Moldova

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Abstract

The purpose of the study was to assess the prevalence of post-traumatic stress disorder and evaluate the psychological state of different categories of people who have experienced traumatic events. This study explored the level of post-traumatic symptoms among individuals experiencing PTSD, especially among Ukrainian refugees who had been exposed to traumatic events during the war. The main aim was to conduct a descriptive assessment of trauma-related symptoms and the need for psychological support. The research involved 20 Ukrainian refugees, mostly women between the ages of 25 and 35, who were living at the Healthy Gorod Center in the city of Bălți, Republic of Moldova. The study focused on an initial diagnostic phase to ascertain the participants’ emotional and psychological state. Standardized clinical interviews and trauma assessment scales were used to measure the baseline level of post-traumatic symptoms. The study aimed to offer scientific evidence for the practical use of counseling in refugee mental health care. The practical significance of the work was that these results could be used by psychologists, psychiatrists and other mental health professionals to develop effective support programs for people with PTSD in Moldova.

Keywords: post-traumatic stress disorder; Ukrainian refugees; CBT-based counseling; mental health; traumatic experience; Republic of Moldova.

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Introduction

Since the outbreak of the full-scale war in Ukraine, forcibly displaced persons have faced not only direct exposure to life-threatening events but also ongoing post-displacement stressors that may intensify trauma-related symptoms. Among the most clinically significant consequences of such exposure is post-traumatic stress disorder (PTSD), which can manifest through intrusive memories, avoidance, hyperarousal, and marked impairment in everyday functioning (Kovalenko et al., 2023). In Moldova, where refugee support has largely relied on community-based and center-based assistance, early identification of PTSD symptoms is essential for organizing timely psychological care. PTSD is characterized by a number of symptoms, as shown in Table 1.

Table 1 - Characteristics of PTSD symptoms

Symptom	Sign
Reliving the traumatic situation	Nightmares, obsessive memories, a strong feeling of fear and horror, negative physical sensations
Avoidance of memories and thoughts	Avoiding thoughts, places, people, or situations related to traumatic experiences (e.g., changing jobs, moving)
Constant feeling of threat	Excessive vigilance, hypervigilance, avoidance of dangerous situations (for example, do not sit with your back to the door, check car mirrors)
Problems in the emotional sphere	Dysregulation of emotions: outbursts of aggression, self-harm, emotional numbness, inability to feel positive emotions
Belief in one's own worthlessness	Feelings of shame, guilt or personal insolvency, self-blame for one's own failures or events that have occurred
Difficulties in building relationships	Alienation, avoidance of acquaintances and social contacts, problems in establishing and maintaining emotional intimacy
Deterioration in various areas of life	Significant negative impact on personal, family, social, educational and professional life
Associated mental disorders	Depression, anxiety disorders, substance use disorders

Existing research indicates that structured psychological counseling, especially cognitive behavioral therapy (CBT) and related trauma-focused approaches, can reduce PTSD symptom severity and improve adaptation in trauma-exposed populations (Bisson et al., 2015; Bisson et al., 2022; Peconga & Høgh Thøgersen, 2020). At the same time, the literature linked to Moldova has more often addressed broader issues of sociocultural trauma, migration-related stress, or general mental health vulnerability than pilot PTSD assessments conducted directly in refugee service settings (Bodrug-Lungu et al., 2023; Colesnic, 2024). As a result, there remains a practical gap between the general evidence base for trauma-informed counseling and the specific diagnostic needs of Ukrainian refugees currently residing in Moldovan support centers.

In response to this gap, the present study was designed as a diagnostic and feasibility-oriented assessment conducted among Ukrainian refugees residing in a refugee center in Bălți. The study did not test the effectiveness of an intervention at this stage. Rather, it sought to establish whether clinically meaningful PTSD symptoms were present at a level that would justify the subsequent implementation of a structured counseling program grounded in CBT principles. Such preliminary evidence is necessary before moving to a larger intervention study in the Moldovan context.

The primary objective was to assess PTSD symptom severity and the proportion of participants meeting PTSD criteria using a structured clinical interview, the Mississippi Scale for Combat-Related PTSD, and the Revised Impact of Event Scale. The secondary objective was to identify baseline psychological support needs relevant to the future development of a CBT-based counseling protocol for this setting. It was hypothesized that most participants would demonstrate clinically significant PTSD symptoms associated with war exposure and displacement, reflected in elevated IES-R scores and convergent findings across the diagnostic instruments. PTSD was therefore treated as the main study outcome, whereas anxiety, depressive manifestations, sleep disturbance, and medication use were considered descriptive contextual variables rather than independent endpoints.

Materials and Methods

This research was designed as a single-arm, cross-sectional study focused strictly on an initial diagnostic phase to ascertain the participants' baseline emotional and psychological state. The study was conducted at the Center for Ukrainian Refugees "Healthy City" in the city of Bălți (Republic of Moldova). Participants were recruited from the population residing at the center. Inclusion criteria required participants to be Ukrainian refugees, aged between 25 and 35 years, and to have documented exposure to a traumatic event posing a direct threat of death or physical integrity related to the war. Exclusion criteria included severe psychotic disorders, current substance use disorder, acute suicidal risk, severe cognitive impairment, and inability to participate in the counseling sessions due to medical or psychiatric instability. The sample consisted of 20 participants, mostly women, which represents a limitation in terms of the generalizability of the results (Table 2). To manage potential drop-outs, the study planned to use weekly reminder contacts, flexible scheduling, and make-up sessions. However, all 20 participants successfully completed the diagnostic assessments. All participants provided written informed consent prior to participation. The study protocol was reviewed and approved by the Ethics Committee of the State University of Medicine and Pharmacy "Nicolae Testemițanu" (Chișinău, Republic of Moldova), Protocol No. 12/34 dated 15 March 2023. The study was conducted in accordance with the principles of the Declaration of Helsinki. Any methodological adjustments were aligned with the findings at each stage of the study.

Table 2 - Descriptive characteristics of study participants

Characteristic	Value
Sex (Female/Male)	16/4
Age (years)	25-35 (Mean: 29.4 ± 2.8)
Legal status	Refugee (citizens of Ukraine)
Time since traumatic event	More than 1 month; the traumatic experience was primarily linked to events beginning in February-March 2022
Comorbidities	Depression (n = 8), anxiety symptoms (n = 7), sleep disturbance (n = 9), somatic stress complaints (n = 5), no documented comorbidity (n = 2)*
Concomitant medication	None (n = 10), anxiolytics/sedative-hypnotics (n = 3), antidepressants (n = 4), analgesics or symptomatic medication for stress-related complaints (n = 5)*

Source: compiled by the authors.

At the ascertainment phase, the diagnosis of PTSD was carried out using two diagnostic scales: the "Impact of event scale" (Horowitz et al., 1979) and the "Mississippi scale for combat-related PTSD" (Keane et al., 1988). Although the Mississippi Scale was originally developed for combat-related PTSD, its use in this study was justified because the participants experienced direct, prolonged exposure to active military hostilities and war-zone conditions, which closely mirror combat trauma. Both scales were administered using validated, culturally adapted Ukrainian and Russian language versions to accommodate the participants' native languages. Standardized scoring procedures were applied. For the Mississippi Scale, an established clinical cut-off score was utilized to identify significant PTSD symptoms, while the IES-R used standard cut-offs across its subscales to confirm the diagnosis and assess severity.

Based on the descriptive diagnostic results, the critical need for psychological intervention was established, leading to the formulation of recommendations for the quality use of CBT-based support.

Results

PTSD symptoms in a sample of Ukrainian refugees in Moldova

PTSD is a serious mental condition that occurs as a result of traumatic events that have caused intense fear, helplessness, or terror. It has a significant impact on a person's daily life, limiting social and professional activities. The causes of PTSD were related to events that went beyond the normal human experience and were perceived as a threat to life or physical integrity. Such events included military operations and armed conflicts, in which combatants, military personnel and civilians faced traumatic situations leading to serious mental consequences. Physical or sexual abuse was also one of the causes of the disorder, since people who had this experience, especially in childhood, had an increased risk of developing PTSD (El Founti Khsim et al., 2022). In addition, serious accidents such as car accidents, work accidents and other life-threatening events often provoked the development of the disorder. Natural and man-made disasters, such as earthquakes, floods, and fires, also caused severe stress and could have a long-term negative impact on a person's mental state (Tahernejad et al., 2023; Messina, 2025).

In particular, PTSD has caused a number of serious problems in various areas of life. Mentally, this has led to an increased risk of depression, anxiety disorders, and substance abuse (Bisson et al., 2015; Roberts et al., 2022). Physically, PTSD can worsen overall health, increase the risk of cardiovascular disease, and cause sleep disturbances (Kovalenko et al., 2023; Hundertailo, 2024). It also affected social relationships, causing difficulties in communicating with family and friends, social isolation and problems in professional activities, including decreased performance, increased fatigue and difficulty concentrating (Patrinichi, 2022). For example, after returning from a war zone, veterans experienced difficulties in adjusting to civilian life due to repetitive memories, emotional detachment, and increased anxiety. Victims of violence often faced constant fear, isolation and problems with trust in people, which are characteristic symptoms of PTSD. Such manifestations indicate a deep psycho-emotional traumatic experience that requires qualified psychological assistance. In addition, those affected by serious accidents may have developed a fear of travel and panic attacks that limited daily activities, including social isolation, reduced quality of life, and difficulty performing professional duties (Ahsan et al., 2023). In general, PTSD is a complex mental condition that requires timely detection and effective treatment.

PTSD is a complex and multifaceted psychological condition that arises as a delayed reaction to extremely stressful or life-threatening experiences

(Vakulyk, 2026; Efremov, 2026b; Stankovska et al., 2015). It is characterized by a range of emotional, cognitive, and behavioral symptoms that significantly affect an individual's psychological well-being and social functioning. Despite the rapid advancement of modern science and technology, the expansion of artificial intelligence, and the exploration of outer space, humanity continues to struggle with the psychological consequences of its own progress. In today's world, people are constantly exposed to socio-economic instability, armed conflicts, natural disasters, pandemics, and existential fears, all of which contribute to the rising prevalence of traumatic experiences (Asadzadeh et al., 2020). The key features of PTSD include intrusive memories of the traumatic event, nightmares, flashbacks, hyperarousal, emotional numbness, and avoidance of reminders related to the trauma. These symptoms may manifest in both acute and chronic forms and can persist for months or even years after the event. The condition affects not only combat veterans and disaster survivors but also civilians who have experienced violence, abuse, displacement, or other severe stressors. In many cases, the disorder leads to depression, anxiety, trust issues, difficulty concentrating, and disturbances in interpersonal relationships (Doehrmann et al., 2025; Efremov, 2026a; Messina et al., 2026).

Historically, PTSD has undergone significant evolution in terms of its recognition, terminology, and theoretical interpretation. The earliest documented descriptions of trauma-related symptoms date back to the late XIX century. During the industrial revolution in England, physicians observed cases of "nervous shock" in accident victims. In the United States, during the Civil War, similar symptoms were described as melancholia and mild psychosis caused by disappointment and longing for home. The German psychiatrist Hermann Oppenheim contributed greatly to early scientific understanding by describing "traumatic neurosis" and emphasizing the combined effect of psychological and physical trauma on the nervous system.

The XX century marked a crucial period in the development of trauma studies, particularly during and after the two World Wars. Soldiers exposed to new, more destructive weapons and large-scale violence were found to suffer from severe psychological consequences, often referred to as "shell shock" or "war neurosis". Later, researchers began to identify similar symptoms among civilians affected by natural and man-made disasters, including survivors of concentration camps and the atomic bombings in Japan. These experiences highlighted the profound impact of psychological trauma on the human psyche, regardless of the cause or context. The recognition of PTSD as a distinct clinical diagnosis came in the latter half of the XX century. With the introduction of diagnostic classifications, particularly in the American DSM-III, the condition was officially defined and categorized. This marked a shift from viewing trauma as a temporary reaction to recognizing it as a long-term psychological disorder that requires professional intervention. Since then, research has expanded to explore the causes, risk factors, neurobiological mechanisms, and effective therapeutic approaches for treating the condition. Today, PTSD remains one of the most widely studied mental health issues due to its prevalence and impact. Advances in neuroscience, clinical psychology, and psychotherapy have improved our understanding of how trauma affects the brain and behavior. At the same time, there is growing awareness of the need for accessible mental health services, especially for vulnerable populations such as refugees, survivors of violence, and those living in conflict zones (Peconga & Høgh Thøgersen, 2020). Ultimately, understanding the nature and features of PTSD is essential for developing effective support systems and promoting psychological resilience in the face of adversity.

When post-traumatic stress disorder occurs, individuals develop a characteristic cluster of physiological, intellectual, emotional, and behavioral symptoms. Addressing these complex conditions requires structured psychological assistance, which generally proceeds through three main stages: establishing a safe atmosphere of contact, actively working with traumatic memories and experiences, and gradually reintegrating the individual into everyday life.

While various therapeutic modalities are recognized for trauma treatment, including Gestalt therapy and psychodynamic psychotherapy, Cognitive Behavioral Therapy (CBT) forms the specific theoretical foundation for the intervention model utilized in this study. By focusing on targeted techniques such as the desensitization and processing of traumatic experiences, this CBT-based framework directly informs the "Return to Life" protocol. This protocol is proposed as the primary intervention to alleviate the specific post-traumatic symptoms identified in the refugee sample.

Baseline diagnostic results

The empirical findings reported in this section refer exclusively to the baseline (ascertaining) assessment. No intervention phase, control phase, or post-intervention measurements were completed within this pilot project. Therefore, the results should be interpreted as descriptive indicators of symptom burden and counseling need rather than as evidence of counseling effectiveness. Accordingly, the analysis focused on the initial diagnostic assessment and on the translation of these findings into practice-oriented recommendations for future trauma-focused intervention studies.

The Center for Refugees from Ukraine "Healthy City", was chosen as the basis for the experimental study. The experiment involved 20 citizens of Ukraine with refugee status, mostly women. Age category: from 25 to 35 years old. The ascertaining experiment is based on the diagnosis of post-traumatic stress disorder in the participants of the experiment using the "Impact of event scale" (Horowitz et al., 1979) and the "Mississippi scale for combat-related PTSD" (Keane et al., 1988).

Diagnosis at the ascertaining stage began with a structured clinical interview based on the Diagnostic and Statistical Manual of Mental Disorders (DSM-5) criteria. During this interview, clinical characteristics including symptom duration, preexisting comorbidities, and current medication usage were also recorded. All participants met criterion A, which indicates exposure to a traumatic event related to war and hostilities in the homeland that posed a direct threat to life or physical integrity. The reported reactions included fear, horror, and helplessness. Criterion A was therefore present in 100% of the sample and provided the basis for continuing the assessment of the remaining PTSD criteria.

Criterion B (persistent re-experiencing of the traumatic event) was met by 15 participants (75%). Re-experiencing manifested as disturbing dreams, intrusive images and thoughts, and intense emotional distress in situations that reminded participants of the traumatic event. Criterion C (avoidance of stimuli associated with trauma) was also met by 15 participants (75%). Participants described avoiding conversations about the traumatic event, emotional detachment from other people, and a diminished sense of future perspective.

Criterion D (persistent symptoms of increased arousal) was met by 14 participants (70%). The predominant manifestations were irritability, anger outbursts, heightened anxiety and vigilance, constant expectation of threat, and difficulty concentrating. Criterion E (duration of symptoms longer than 1 month) was met by 15 participants (75%), with symptom duration in most cases extending from February-March 2022. Criterion F (clinically significant impairment in important areas of life) was met by 13 participants (65%). Reported impairments included refusal of further self-realization, low self-esteem, social isolation, negative perception of self and others, irritability, and, in rare cases, self-injurious behavior. The results are summarized in Table 3 and Figure 1.

Table 3 - Structured clinical interview coding framework and baseline frequencies for DSM-5 PTSD criteria

Criterion	Operational coding rule used in the interview	n	%
A	Direct war-related exposure involving threat to life or physical integrity, accompanied by fear, horror, or helplessness	20	100
B	Intrusive memories, nightmares, or marked distress in response to trauma reminders	15	75
C	Avoidance of trauma-related thoughts or conversations; emotional detachment	15	75
D	Hypervigilance, irritability, anger outbursts, or concentration difficulties	14	70
E	Persistence of trauma-related symptoms for more than 1 month	15	75
F	Clinically significant impairment in social, personal, or everyday functioning	13	65

Source: compiled by the authors based on DSM-5 diagnostic criteria.

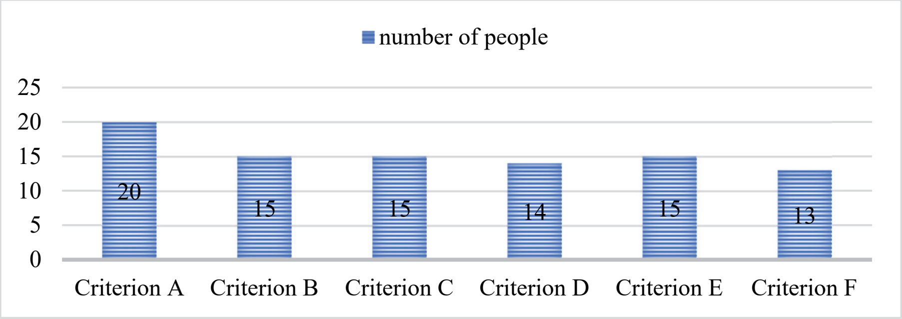

Figure 1 - Baseline frequency of PTSD diagnostic criteria identified in the structured clinical interview
Source: compiled by the authors.

The structured clinical interview therefore documented a substantial baseline burden of post-traumatic symptomatology: after universal endorsement of criterion A, between 65% and 75% of participants met each of criteria B-F. These frequencies support the conclusion that the sample required further trauma-focused psychological assessment and support (Table 4, Figure 1).

On the Mississippi Scale, 15 participants (75%) fell within the PTSD range, 3 (15%) showed elevated but subthreshold symptom burden, and 2 (10%) remained in the low-symptom range. Because higher Mississippi scores indicate greater trauma severity, these groupings were used as descriptive severity categories rather than as separate clinical diagnoses. The predominance of the PTSD-range category supports the interpretation that clinically meaningful trauma-related distress was widespread in the study sample.

Table 4 - Mississippi Scale categories and interpretive basis at baseline

Category	Interpretive basis	n	%
Good adaptation	Low symptom burden; below the study clinical threshold	2	10
Impaired adaptation	Elevated symptoms but below the PTSD threshold	3	15
PTSD range	Symptoms at or above the clinical threshold used in the study	15	75
Total	-	20	100

Source: compiled by the authors based on Keane et al. (1988).

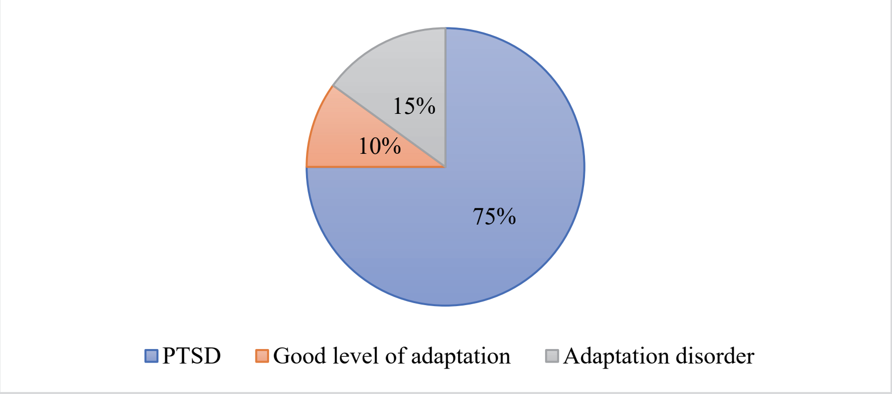

Figure 2 - Baseline distribution of Mississippi Scale categories in the sample
Source: compiled by the authors.

The IES-R was then used to summarise symptom intensity across the domains of intrusion, avoidance, and hyperarousal. Given the small sample and the refugee context, individual item profiles were not reported. Instead, only aggregate descriptive indices were retained in the manuscript in order to minimise re-identification risk. Table 5 and Figure 3 therefore present group-level IES-R summaries only.

Table 5 - Aggregate IES-R scores at baseline (group-level reporting)

Measure	Mean ± SD	Median	Range
Intrusion	26.70 ± 4.04	28.5	20-31
Avoidance	27.70 ± 4.04	29.0	21-31
Hyperarousal	25.05 ± 3.71	25.0	20-30
IES-R total	79.45 ± 11.30	84.0	61-90

Source: compiled by the authors based on Horowitz et al. (1979).

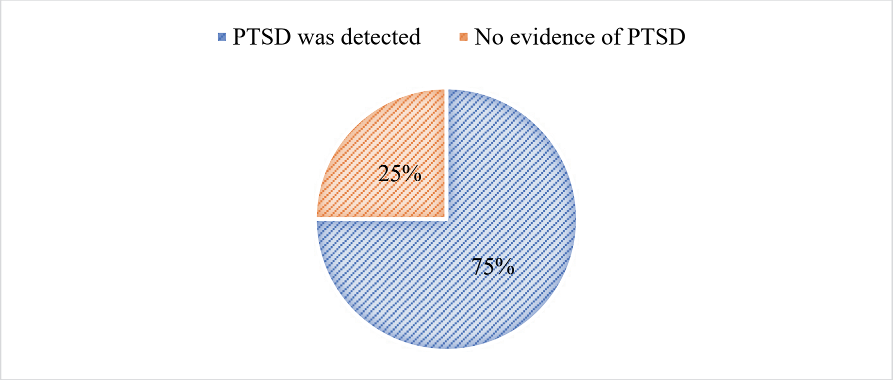

Figure 3 - Baseline distribution of participants above and below the IES-R study threshold
Source: compiled by the authors.

The IES-R results were consistent with the preceding assessments. The mean scores were 26.70 ± 4.04 for intrusion, 27.70 ± 4.04 for avoidance, and 25.05 ± 3.71 for hyperarousal. The mean total IES-R score was 79.45 ± 11.30 (median = 84.0; range: 61-90). Using the study threshold, 15 of 20 participants (75%) showed a score pattern consistent with clinically significant post-traumatic stress symptoms. Taken together, the baseline interview and scale results indicate pronounced counseling needs in this refugee sample.

Discussion

Consistent with the high levels of avoidance, intrusion, and hyperarousal observed in our sample, external evidence identifies CBT as one of the most effective treatments for PTSD and complex PTSD. This therapeutic approach is based on changing negative thought patterns that affect a person's emotional state and behavior. In our sample, participants exhibited significant emotional distress and persistent repetition of traumatic experiences. For such cases, the literature indicates that CBT helps patients understand the relationship between thoughts, emotions, and behavioral responses, gradually reducing the impact of traumatic memories. Therefore, to address the specific symptoms of increasing agitation and avoidance noted in 70-75% of our respondents, we recommend the integration of main CBT techniques, which include cognitive restructuring, exposure therapy, training of emotion regulation skills, and working with triggers that trigger symptoms of the disorder.

The intervention follows a standardized six-week protocol delivered primarily in weekly 90-minute group sessions to foster peer support, supplemented by optional 45-minute individual sessions. To maximize engagement, the program is culturally adapted and delivered in the participants' native languages (Ukrainian or Russian), and it operates alongside concurrent psychiatric medication management and social support services. Treatment adherence is monitored via patient homework checklists and clinician logs, with all providers required to attend weekly clinical supervision. The protocol systematically progresses week by week: it begins with assessment and psychoeducation (Session 1), moves to stabilization and emotion regulation using relaxation and emotional diaries (Session 2), introduces cognitive restructuring to replace negative trauma-related beliefs (Sessions 3 and 4), applies exposure therapy to safely confront fears in a controlled environment (Session 5), and concludes with relapse prevention and skill-building for social reintegration (Session 6).

The use of CBT among survivors of war, violence or natural disasters helps to reduce anxiety, depression, emotional numbness and avoidance (Puhach et al., 2026; Romash et al., 2022). It is especially important to use CBT among military personnel and veterans, who often face the consequences of hostilities, which allows to rethink events and reduce feelings of guilt and shame. Group therapy for veterans helps to share experiences and create a supportive environment that reduces social isolation (Fedorenko & Stasiuk, 2026; Sorokowska et al., 2018; Elberg et al., 2026). Particular attention was paid to the study of the impact of PTSD on medical professionals, since specialists were often under constant stress, which increased the likelihood of developing this disorder. Research by Lu et al. (2021) showed that healthcare workers working on the frontline of the COVID-19 response had a significant risk of developing PTSD. High levels of stress, constant contact with seriously ill patients, fear of infection, limited opportunities for rest created favorable conditions for the occurrence of mental disorders. In addition, the study found that many doctors avoided seeking psychological help due to the stigma associated with mental disorders in the professional environment.

Similar results were obtained by Ferdohleb (2022), who studied the level of emotional burnout among specialists who regularly came into contact with injured patients. The author noted that prolonged exposure to high-stress environments led to the development of occupational exhaustion, which was often accompanied by symptoms of PTSD. A particularly high level of burnout was observed among doctors working in intensive care units, psychiatric hospitals, and military rehabilitation centers. The study emphasized that constant interaction with patients who had experienced traumatic experiences contributed to the emergence of the so-called "secondary traumatization", when medical professionals began to experience other people's traumas as their own, which eventually led to the development of PTSD (Murray et al., 2020). The results obtained were important for the study, as these results highlighted the need to develop specific psychological support programs for health professionals. The importance of preparing future specialists to work in stressful situations and teaching them methods of psychological self-defense was also demonstrated. The implementation of PTSD prevention strategies among healthcare professionals, such as regular psychological consultations, support groups, stress management training, and improved working conditions, could significantly reduce the risk of burnout and improve the quality of professional performance (Bisson et al., 2021; Council of Europe, 2023).

Civilians affected by hostilities also need special attention. People who have experienced destruction, loss of loved ones, or forced displacement often experience severe anxiety, fear, and depression (Danylova, 2024; Negay et al., 2022). For them, the most useful are methods of stabilizing the emotional state, such as deep breathing techniques, progressive muscle relaxation and psychoeducation on the topic of PTSD and ways to overcome it. An important component is the "safe place" technique, which helps patients create a mental space that helps reduce anxiety. For example, a woman who survived the shelling was able to visit crowded places after a CBT course without panic attacks thanks to these techniques. Children and adolescents who have experienced traumatic events often show symptoms of PTSD due to sleep problems, aggressive behavior, and learning difficulties (Bastien et al., 2020; Lewis et al., 2020; Taylor Miller et al., 2021). Play therapy and cognitive-behavioral techniques in the form of fairy tale therapy are especially effective for them. It is also important to involve parents in the therapy process, which helps to create a stable environment for the child (Mavranezouli et al., 2020a). Studies have shown that children who received CBT in the form of art therapy coped better with emotions and adapted to social conditions (Schnitzer et al., 2021). For example, a 9-year-old boy who lost his parents during the war began to openly talk about his experiences after receiving CBT, which greatly eased his condition.

Specialists and coaches who work with people with PTSD must take into account the individual characteristics of each patient. One of the main recommendations is to use gentle exposure techniques to help patients face fears gradually, without excessive emotional overload. In addition, clients should be taught self-help skills, such as keeping an emotional diary and using breathing techniques. Professionals must also provide support and guidance to clients at all stages of therapy, especially those who have experienced loss or abuse. For example, a psychologist who worked with a veteran first helped stabilize the emotional state, and then moved on to working with traumatic memories, which helped to avoid excessive stress (Cloitre, 2020). Overall, studies have confirmed the high effectiveness of CBT in treating PTSD symptoms among different populations. Veterans, civilians, and children who underwent CBT showed reduced anxiety, fear, and avoidance, as well as improved social adjustment. The effectiveness of CBT is due to its individualized approach, which allows you to adapt the methods to the needs of specific groups of the population. It is also important to ensure that mental health professionals are continuously educated and trained to improve therapies and increase their effectiveness. Cognitive-behavioral therapy remains one of the most effective tools in the field of psychological assistance, as it allows people who have experienced traumatic events to regain control of their lives, improve the quality of their emotional response and gradually return to normal functioning (Mavranezouli et al., 2020b; Marku et al., 2024; Abetova et al., 2023).

To reduce the level of PTSD in refugees in Moldova, it is necessary to introduce modern methods of psychological rehabilitation, educational courses for professionals and adopt the effective experience of other countries. One of the key areas is the training of doctors, psychologists and social workers in trauma-focused cognitive behavioral therapy, which is one of the most effective treatments for PTSD. Also important is a course in eye movement desensitisation and reprocessing (RemotEMDR, 2025), a method that is actively used in the United States and Europe to reduce the symptoms of trauma (Barawi et al., 2020). Israel's experience demonstrates the effectiveness of crisis intervention programs, which involve preparing military and civilians to cope with stressful situations before these situations arise. Such training can be adapted for the Moldovan military and rescuers. In the UK, the Trauma Risk Management program successfully detects signs of PTSD among the military and provides early support (Vianello et al., 2020).

In clinics in the Netherlands and the United Kingdom, this method is used to treat people who have experienced sexual abuse or abuse as children. Psychodrama, as a form of group psychotherapy, allows you to work through traumatic experiences through role-playing situations, is actively used in Germany, Austria and Latin America for the rehabilitation of victims of domestic violence. Body-centered therapy, which focuses on working with bodily sensations and muscle blocks, has proven to be effective in the European Union, particularly in Switzerland and Sweden, where it is used in rehabilitation programs for migrants, refugees and victims of natural disasters (Buja et al., 2020). These methods are increasingly being integrated into interdisciplinary assistance programs, which helps to achieve sustainable results in overcoming post-traumatic conditions and returning people to a full life.

It is also worth introducing distance courses for veterans and civilians, including self-help programs based on CBT. In the UK, there are online platforms such as STOP-PTSD that can be adapted to the Moldovan realities (Ehlers, 2023). The use of group techniques, such as “Seeking safety”, should be expanded, which help to combine work with trauma with anxiety disorders. In addition, Moldova can adopt the experience of the Scandinavian countries, where art therapy, animal therapy and body-oriented therapy methods are actively used to reduce anxiety and stabilize the emotional state. In general, an effective fight against PTSD requires an integrated approach: training specialists, adapting international methods and developing affordable psychological assistance programs for all categories of the population.

Conclusions

The diagnostic results of this study indicate a high prevalence of PTSD among the sampled Ukrainian refugees, with 75% of the participants meeting the diagnostic criteria based on standardized assessments. These findings confirm the profound psychological impact of war-related trauma on displaced individuals and highlight a critical need for targeted psychological support. While this study focused exclusively on the initial ascertaining phase to evaluate baseline trauma-related symptoms, the high rate of identified PTSD underscores the necessity for mental health professionals in Moldova to develop and implement structured intervention programs. Based on the literature reviewed, evidence-based approaches such as cognitive-behavioral therapy (CBT) represent a highly relevant framework for future clinical interventions with this demographic.

In Moldova, evidence-based methods of psychotherapy help to overcome PTSD, which is implemented at the Mental Health Center Centrul Comunitar de Sănătate Mintală for emotional support from family and friends. The government’s significant steps include ensuring access to psychiatric and psychological services through a network of community mental health centers and organizing rehabilitation programs at specialized institutions such as the Diomid Herman Institute of Neurology and Neurosurgery in Chisinau and the Clinical Psychiatric Hospital.

The primary limitation of this study is the small, localized sample of 20 female participants residing in a single refugee center in Moldova, which strictly limits the generalizability of the findings to broader populations. Prospects for further research include empirically testing the effectiveness of the proposed "Return to Life" CBT program through formative and control experiments, as well as expanding the sample size to validate these initial diagnostic findings across diverse refugee demographics.

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The authors report there are no competing interests to declare.

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The role of rumination and stress in women's sleep: Evidence from a diary study

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Abstract

Women are recognized to report poorer sleep compared to man, with a wide-ranging consequence for their physical and mental health. Recently, research has started to focus on psychological factors to account for such gender-dependent disparities. Preliminary evidence indicates that poor sleep is often related to stress and use of maladaptive emotion regulation strategies, such as rumination. However, since prior research has mainly examined the association of sleep quality with either stress or rumination, little is known about their potential combined effect. In this one-week diary study, we investigated how daily- and trait-levels of stress and rumination interact to predict sleep quality in 166 healthy women.
The results from multilevel modeling revealed a significant negative association between daily pre-sleep rumination and sleep quality. By contrast, daily stress was not significantly associated with sleep quality, nor did its interaction with pre-sleep rumination. At the trait level, perceived stress and its interaction with brooding rumination were significantly associated with poor sleep quality.
Overall, our findings highlight the importance of diary study designs for deepening our understanding of how stress and rumination are jointly associated with sleep in women. More broadly, the present study contributes to feminist scholarship on health by emphasizing the need to address the gendered dimensions of psychological processes that affect health outcomes.

Keywords: sleep, rumination, stress, women, experience sampling, diary.

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1. Introduction

Sleep quality (SQ) is a critical component of both physical (Luyster et al., 2012; Medic et al., 2017) and psychological well-being (Scott et al., 2017; Weinberg et al., 2016). In recent years, growing attention has been paid to gender-specific differences in sleep patterns (Fatima et al., 2016; Madrid-Valero et al., 2017; Varghese et al., 2020). Consistent evidence has shown that women report poorer sleep compared to men, with important implications for their physical and mental health. This disparity persists even after accounting for socio-demographic, lifestyle, and mental health variables (Singareddy et al., 2012; Lindberg et al., 1997), as well as for biological influences like hormonal fluctuations (Pengo et al., 2018), and work-related stressors such as job demands, long hours, work–family conflict (Sekine et al., 2006). Accordingly, large-scale population studies (e.g., Fatima et al., 2016) have suggested the need to further investigate women's vulnerability to poor SQ, emphasizing that existing sociodemographic, biological, and clinical factors do not fully account for the observed gender specificities in SQ.

Within psychological functioning, rumination is a well-established predictor of sleep-related outcomes (for a systematic review and meta-analysis, Clancy et al., 2020). Rumination is defined as a maladaptive emotion regulation (ER) strategy characterized by repetitive, negative, self-focused thinking about stressful events (Nolen-Hoeksema et al., 2008). Notably, research has distinguished between reflection and brooding (Treynor et al., 2003): The latter involves persistently dwelling on negative thoughts about oneself, situations, or actions and thus represents the more maladaptive form (Treynor et al., 2003; Watkins, 2004). Brooding rumination has been associated with increased sleep onset latency, reduced total sleep time, and poorer subjective SQ (Guastella & Moulds, 2007; Nota & Coles, 2015). Crucially, it is more prevalent among women (for a meta-analysis, Johnson & Whisman, 2013), highlighting a potentially gendered pathway through which psychological factors may influence sleep.

Brooding rumination can be understood within the broader framework of perseverative cognitions, which refer to the repeated and prolonged cognitive representation of stressors (Brosschot et al., 2006). According to prominent conceptualizations of sleep mechanisms (Harvey, 2002; Harvey et al., 2005), such cognitions around bedtime interfere with the sleep initiation process and compromise overall SQ. Pre-sleep rumination, a state-level form of perseverative cognition occurring before sleep (involving negative thoughts, often focused on past events or future concerns), has been identified as a particularly relevant psychological mechanism influencing sleep patterns. A substantial body of evidence confirms that pre-sleep rumination is associated with delayed sleep onset latency (SOL), reduced sleep duration, and impaired SQ (Guastella & Moulds, 2007; Nota & Coles, 2015; Thomsen et al., 2003; Zoccola et al., 2009; for a review, see Clancy et al., 2020).

A possible reason why pre-sleep rumination may be particularly maladaptive for sleep is the so-called 'pre-sleep cognitive arousal' – a stress-related arousal beyond the presence of an actual stressor – associated to rumination at or around sleep onset (Espie, 2007; Harvey et al., 2005). Pre-sleep cognitive arousal has been shown to disrupt sleep patterns by delaying SOL and compromising overall SQ both in patients with insomnia (e.g., Lichstein & Rosenthal, 1980; Wicklow & Espie, 2000) and normal sleepers (Hall et al., 1996; Gorgoni et al., 2021; Guastella & Moulds, 2007; Wuyts et al., 2012; Yeh et al., 2015). Additionally, ruminative thoughts may carry the influence of daily stressors over into the evening and night (Berset et al., 2011), prolonging physiological activation elicited by those stressors (Cropley et al., 2013; Van Laethem et al., 2016). According to the *Perseverative Cognition Hypothesis* (Brosschot et al., 2006), the spillover of daily stress and daily rumination into the evening period may increase cognitive arousal at bedtime and interfere with the downregulation necessary for restful sleep (Morin et al., 2003). This process seems particularly relevant in individuals with high trait-level rumination, who tend to exhibit heightened stress reactivity and engage in prolonged brooding over stressors, thereby perpetuating their distress (Moberly & Watkins, 2008; Smyth et al., 2013).

Several studies have demonstrated significant associations between perceived stress, rumination, and poor sleep outcomes (Berset et al., 2011; Guastella & Moulds, 2007; Li et al., 2019; Otto et al., 2022; Van Laethem et al., 2016; Tousignant et al., 2019; Zoccola et al., 2009). However, most of this research has been either cross-sectional (e.g., Berset et al., 2011) or experimental (e.g., Guastella & Moulds, 2007). Few studies have used diary study designs to investigate within-person variations in sleep outcomes as a function of daily rumination and stress, and even fewer have investigated the combined and cumulative effect of both daily and trait rumination and stress on sleep. For instance, using a convenience sample of healthy individuals, Åkerstedt et al. (2012) demonstrated that daily fluctuations in pre-sleep rumination around stressors predicted corresponding variations in next-day SQ over a six-week period. Notably, after controlling for pre-sleep rumination, the relationship between daily stress levels and SQ was no longer significant. Van Laethem et al. (2016) found that perseverative cognition mediated the relationship between daily stress and daily SQ (indexed by both subjective and objective sleep parameters) across multiple time points.

Zoccola et al. (2009) further demonstrated that both trait and state stressor-specific rumination interacted to predict longer SOL following an acute psychosocial stressor. Finally, Vahle-Hinz et al. (2014) have examined the relationship between work-related stress, work-related rumination, and restful sleep during both weekdays and the weekend. Findings showed that work-related rumination was associated with restful sleep on weekends but not on workdays, while no mediation effects of work-related stress on restful sleep via work-related rumination were observed. Overall, these studies provide important evidence concerning the potential causal mechanisms underlying daily fluctuations in SQ.

Despite the growing attention to rumination and stress as critical psychological determinants of SQ, little is known about the joint effects of these variables on women's SQ. On the one hand, existing studies have mostly examined either stress or rumination. For instance, using a one-week daily diary design, Lee et al. (2013) identified a relationship between stress and sleep disturbances in female college students. Winzeler et al. (2014) found that pre-sleep arousal mediated this association in a 14-day diary and actigraphy study conducted on 145 women. In more detail, their results showed that somatic pre-sleep arousal mediated the relationship between stress and poor SQ at the between-participant level, while cognitive pre-sleep arousal (i.e., a form of perseverative cognition) mediated this relationship within participants. Finally, Chow et al. (2017) reported that gender differences in sleep were mediated by co-rumination (i.e., a dyadic communication style involving extensive discussion of problems primarily focusing on negative feelings). On the other hand, studies focusing on women's SQ have mostly assessed the broad construct of ER rather than rumination specifically (Racine et al., 2013, Hoag et al., 2016; Vafapoor et al., 2018).

2. The Present Study

The present study aims to address these gaps by investigating the relationship between trait- and state-level rumination and stress and SQ in women using a daily diary-based design. In other words, the main goal of the study is to examine simultaneously trait-level tendencies and day-to-day variations in stress and rumination and their association with women's SQ.

To this purpose, we adopt a repeated measures design assessing women's perceived stress levels, pre-sleep rumination, and SQ at three time points over a week (i.e., weekend, beginning of the week, midweek). At each time point, daily stress levels were assessed asking women to answer a questionnaire in the evening, while they rated their use of pre-sleep rumination and SQ in a subsequent, morning assessment.

We hypothesized that (H1) both pre-sleep rumination and daily stress would be associated with poorer SQ. Specifically, we expected that women reporting higher pre-sleep rumination and higher stress levels on a given day would experience worse sleep that night. A second hypothesis is that (H2) the negative impact of daily pre-sleep rumination on SQ would be exacerbated by daily stress. Specifically, we expected to observe a stronger negative relationship between pre-sleep rumination and SQ on a given night in those women experiencing higher levels of stress on the preceding day. Third, we hypothesized that (H3) women reporting higher average levels of brooding and perceived stress at the trait level would experience worse SQ across the overall observation period. Finally, we expected that (H4) the association between brooding and poor SQ would be stronger in women with higher average levels of trait stress.

3. Method

3.1. Sample

A community sample of 176 women participated in the study. Ten participants who reported a psychopathological diagnosis were excluded. The final sample thus consisted of 166 women (mean age = 41.08; SD = 15.24; age range = 18-67).

Participants' education levels ranged from junior high school (1.9%), senior high school (28%), university with a bachelor's degree (19.9%), university with a master's degree (36%), to post-university education (7.5%). Additionally, 1.9% of respondents reported a different qualification not included in the previous categories (e.g., a double degree or vocational school training). Regarding occupational status, 58.4% of participants were employed, 24.2% were students, 6.8% were working students, 1.2% were unemployed, and 9.3% were housewives.

3.2. Measures

3.2.1. Trait Measures

Sleep Quality. The Pittsburgh Sleep Quality Index (PSQI; Buysse et al., 1989; Italian version: Curcio et al., 2013) is a 19 item self-report measure to assess subjective sleep quality (during the previous month). The items tap seven domains of sleep difficulties (range of subscale scores: 0-3): sleep quality, sleep latency, sleep duration, habitual sleep efficiency, sleep disturbances, use of sleeping medications, and daytime dysfunction. A total score is obtained by computing the sum of these seven components (range: 0-21), with higher scores indicating poor sleep quality. In our study, Cronbach's alpha was 0.674 and McDonald's omega was 0.699, but they increased respectively to 0.745 and 0.758 after two components (medication use and daytime dysfunction) were removed (Zhang et al., 2020). The PSQI adopts a cut-off score of 5 to distinguish between good and poor sleep. In our sample, 37.3% of participants scored below 5, indicating good SQ. An additional 17.5% scored exactly 5, while 33.6% scored between 6 and 10, and 11.4% between 11 and 15.

Brooding Rumination. The Brooding sub-scale of the Ruminative Response Scale (RRS; Nolen-Hoeksema & Morrow, 1991; Italian version: Palmieri et al., 2007) was used. It consists of 5 items rated on a four-point Likert scale ranging from 1 (= never) to 4 (= always). In the present study, Cronbach's alpha was 0.697 and McDonald's omega was 0.702.

Perceived Stress. The Perceived Stress Scale (PSS; Cohen et al., 1983; Italian version: Mondo et al., 2021) consists of 10 items that measure the individual's levels of general stress. The respondents are asked to rate ten statements about their feelings and thoughts during the last month using a 5-point Likert scale ranging from 0 (= never) to 4 (= very often). Cronbach's alpha was 0.843 and McDonald's omega was 0.845.

3.2.2. Daily Measures

Sleep quality. Four items from the Consensus Sleep Diary (CDS; Carney et al., 2012) were used. The items covered the following domains: a) number of nocturnal awakenings (never; 1-2 times; 3-4 times; 5-6 times; more than 6 times); b) difficulties returning to sleep after nighttime awakenings; c) feeling rested upon waking in the morning, and d) overall perceived sleep quality. All items, except for the first one, were rated on a 7-point Likert scale ranging from 1 (not at all) to 7 (very much). A composite score (i.e., sum) was computed, with higher scores indicating worse sleep quality. Cronbach's alphas and McDonald's omegas for each measurement (i.e., weekend, beginning of the week, midweek) were as follows, respectively: $\alpha = 0.787$, $\omega = 0.821$; $\alpha = 0.758$, $\omega = 0.796$; and $\alpha = 0.731$, $\omega = 0.777$.

Pre-sleep rumination. Three items on a 7-point Likert scale from 1 (= not at all) to 7 (= very much) were used, asking participants to report how much they indulged in rumination before falling asleep. Cronbach's alphas and McDonald's omegas for weekend, beginning of the week, and midweek assessments were as follows, respectively: α = 0.886, ω = 0.897; α = 0.862, ω = 0.876; and α = 0.865, ω = 0.877.

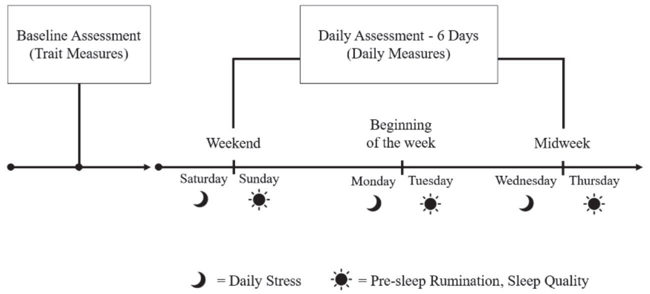
Perceived stress. We used the items of the Perceived Stress Scale (PSS; Cohen et al., 1983; Italian version: Mondo et al., 2021) described above. The instructions and the temporal framing of the items were modified asking participants to report the stress they experienced during the day. Cronbach's alphas and McDonald's omegas for weekend, beginning of the week, and midweek assessments were as follows, respectively: α = 0.858, ω = 0.865; α = 0.870, ω = 0.874; and α = 0.880, ω = 0.882.

3.3. Procedure

Participants were recruited through advertisements posted on social networks and by worth of mouth. Participation in the study was without any monetary compensation. Informed consent was obtained from each participant according to the Declaration of Helsinki (2008).

First, participants completed an initial questionnaire that included trait-assessment measures and questions concerning socio-demographic information. They were also asked to indicate whether they had any psychopathological diagnoses. After participants completed the initial questionnaire, a 1-week diary study including six measurements was conducted. The participants were asked to complete two brief online questionnaires at three time points over the week: weekend (Saturday/Sunday), the beginning of the week (Monday/Tuesday), and midweek assessment (Wednesday/Thursday). First, the participants were asked to answer a questionnaire in the evening to rate the levels of stress they experienced during the day; they were then asked to answer a second questionnaire including measures of rumination and SQ upon awakening the next morning. This procedure is displayed in Figure 1.

Fig. 1 – *Visualization of study design*



Concerning the evening assessments, participants were allowed to answer the questionnaire from 8:45pm to 1:30am, while concerning the morning assessments, from 6:00am to 1:00pm. However, the instructions asked them to try to complete the questionnaire within an hour and a half of waking up.

3.4. Statistical Analysis

First, descriptive statistics and Pearson bivariate correlations were computed, and repeated measures ANOVAs were conducted to inspect whether stress, SQ, and rumination levels varied across the week. Then, due to the data's hierarchical structure (i.e., days nested within individuals), we conducted a multilevel analysis using the *nlme* package (Pinheiro et al., 2020) in R.

Following Bliese's (Bliese, 2012) recommendations, we began by calculating the intra-class correlation (ICC) coefficient for each daily variable to evaluate the proportion of total variance due to between-person differences rather than day-to-day fluctuations within individuals. As a second step, we tested our hypotheses by running a multilevel model. We specified a linear mixed-effects model as follows:

Level 1 (days):

$$\text{Sleep}_{ij} = \beta_{0j} + \beta_{1j} \cdot \text{Pre-sleep Rumination}_{ji} + \beta_{2j} \cdot \text{Daily Stress}_{ji} + \beta_{3j} \cdot (\text{Pre-sleep Rumination}_{ji} \times \text{Daily Stress}_{ji}) + \beta_4 \cdot \text{Week Moment}_{ij} + \epsilon_{0ji}$$

Level 2 (individuals):

$$\beta_{0j} = \gamma_{00} + \gamma_{01} \cdot \text{Brooding}_j + \gamma_{02} \cdot \text{Stress}_j + \gamma_{03} \cdot (\text{Brooding}_j \times \text{Stress}_j) + u_{0j}$$
$$\beta_{1j} = \gamma_{10} + u_{1j}$$

In this model, the outcome at Level 1 (Sleep_{ji}), representing a person j's score on SQ at the time point i, was modeled as a function of a random intercept β_0; the individual-level predictors that vary daily, including pre-sleep rumination (Rumination_{ji}), daily stress (Stress_{ji}), and their interaction ($\text{Pre-Sleep Rumination}_{ji} \times \text{Daily Stress}_{ji}$); the week moment ($\text{Week Moment}_{ji}$); a random error term ($\epsilon_{ji}$) to capture day-specific deviations in SQ that are not explained by the model predictors. At Level 2, we modelled the variability in the intercept (β_0) as a function of person-level (i.e., between-person) predictors, including trait brooding (Brooding_j) and trait stress (Stress_j), and their interaction ($\text{Brooding}_j \times \text{Stress}_j$); a random intercept u_{0i}, allowing each person to have their unique baseline level of SQ; a random slope u_{1i} for pre-sleep rumination, allowing each person to have their unique impact of daily pre-sleep rumination on sleep.

Additional specifications of the model, including the fixed and random effects selection and the centering strategies, are detailed in the Supplemental Material. Information regarding attrition and handling of missing data is also reported in the Supplemental Material.

4. Results

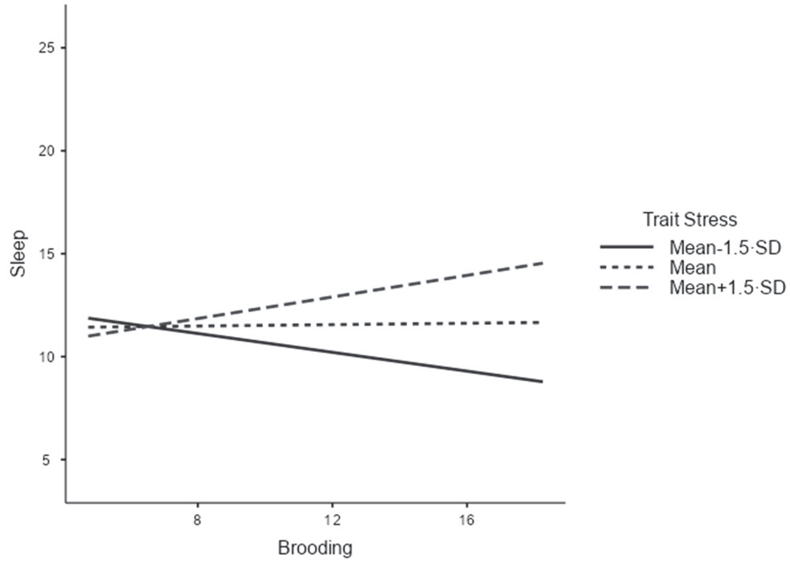
Descriptive statistics and bivariate correlations are reported in Table 1. Repeated measures ANOVAs showed that daily perceived stress increased over the course of the week, $F(2,330) = 6.04$, $p = 0.003$, $\eta^2 partial = 0.035$. In more detail, the participants reported higher levels of stress in the midweek assessment compared to the weekend. However, no significant difference emerged either in daily SQ, $F(2,330) = 0.847$, $p = .430$, $\eta^2 partial = 0.005$, or pre-sleep rumination, $F(2, 330) = 0.105$, $p = .891$, $\eta^2 partial = 0.001$.

The results from the mixed-effects model are presented in Table 2, including both fixed and random effects. In terms of model fit, the marginal R^2 (indicating the proportion of variance explained solely by the fixed effects) was 0.159, while the conditional R^2 (indicating the proportion of variance explained by both fixed and random effects) was 0.532.

The analysis revealed that daily pre-sleep rumination was significantly associated with SQ: On days when women reported higher levels of pre-sleep rumination relative to their own weekly average, they also experienced lower sleep SQ. Trait stress also showed a significant positive association with sleep disruptions, suggesting that participants with higher average level of trait stress, compared to the sample-grand mean, reported more frequent SQ. In contrast, daily stress and trait brooding rumination did not show any significant relationship with SQ.

The interaction between brooding and trait stress was significant, suggesting that individuals with higher levels of trait stress were more vulnerable to the disruptive impact of brooding on their sleep. Simple slopes analyses indicated that the relationship between brooding and sleep was significant and positive at high levels of trait stress (i.e., +1.5 SD; B[SE] = 0.26[0.11], t = 2.31, p = .022). In contrast, this association was not significant at low (i.e., -1.5 SD, B[SE] = 0.23[0.16], t = -1.430, p = .155) and average levels of trait stress (i.e., M, B[SE] = 0.02[0.10], t = 0.175, p = .861). This effect is displayed in Figure 2. In contrast, no significant interaction was found between daily pre-sleep rumination and daily stress on SQ.

Figure 2 – *The moderating effect of Brooding Rumination and Trait Stress on Daily Sleep*



Note: Higher sleep scores indicate worsened sleep quality.

Table 1 – Descriptive statistics and bivariate correlations among study variables

	M	*SD*	*Min*	*Max*	1	2	3	4	5	6	7	8	9	10	11
Trait Measures															
1. PSQI	6.11	3.20	.00	15.00											
2. RRS-B	2.25	.54	1.00	3.60	.080										
3. PSS	2.10	.62	.40	3.80	.315**	.540**									
Daily Measures - Weekend															
4. Sleep	2.87	.94	1.00	6.50	.446**	.269**	.283**								
5. Pre-sleep Rumination	2.51	1.45	.11	7.00	.457**	.445**	.386**	.448**							
6. Stress	1.48	.73	.00	3.70	.035	.204**	.300**	.042	.275**						
Daily Measures - Beginning of the Week															
7. Sleep	2.98	.99	1.00	6.00	.246**	.101	.217**	.354**	.211**	-.023					
8. Pre-sleep Rumination	2.56	1.41	.67	7.00	.268**	.073	.087	.178*	.346**	.069	.545**				
9. Stress	1.66	.77	.00	3.50	.220**	.288**	.375**	.072	.105	.135	.070	.215**			
Daily Measures - Midweek															
10. Sleep	2.96	0.99	1.00	6.25	.480**	.165*	.215**	.328**	.301**	.103	.292**	.333**	.180*		
11. Presleep Rumination	2.56	1.46	.67	7.00	.398**	.257**	.249**	.219**	.523**	.207**	.335**	.545**	.172*	.583**	
12. Stress	1.72	.78	.20	3.90	.180*	.508**	.526**	.155*	.233**	.275**	.188*	.090	.434**	.254**	.277**

Note: $^{*}p < .05$. $^{**}p < .01$.
PSQI = Pittsburgh Sleep Quality Index; RRS-B = Ruminative Response Scale – Brooding subscale; PSS = Perceived Stress Scale. Higher sleep scores indicate worsened sleep quality.

Table 2 – Results from linear mixed-effects model analysis

			95% CI				
Sleep	Estimate	SE	Lower	Upper	df	t	*p*
Within-Person (Fixed Effects)							
Intercept	**11.29**	0.38	10.54	12.05	468.66	29.38	**< .001**
Pre-sleep Rumination	**0.45**	0.06	0.32	0.57	75.25	6.94	**< .001**
Stress	-0.02	0.02	-0.07	0.03	310.52	-0.83	0.409
Week Moment	0.12	0.15	-0.18	0.43	307.30	0.81	0.420
Pre-sleep Rumination × Stress	0.01	0.01	-0.02	0.03	398.68	0.67	0.502
Between-Person (Fixed Effects)							
RRS-B	0.02	0.10	-0.17	0.21	162.42	0.17	0.861
PSS	**0.13**	0.04	0.05	0.20	162.92	3.14	**0.002**
RRS-B × PSS	**0.03**	0.01	0.01	0.05	163.98	2.47	**0.014**
Random Effects							
σ^2	6.99	2.64					
$\tau 00$	4.78	2.19	1.81	2.54			
$\tau 11$	0.12	0.35	0.21	0.53			
ICC	0.44						
ρ01	-0.04		-0.48	0.36			

Note: Nsample = 166; Nobservations = 498.
RRS-B = Ruminative Response Scale – Brooding subscale; PSS = Perceived Stress Scale. Daily variables (within-person variables) have been centered within clusters. Trait variables (between-person variables) have been grand mean-centered.
$\tau 00$ = between-person variability in sleep (random intercept); $\tau 11$ = between-person variability in the effect of pre-sleep rumination on sleep (random slope); σ^2 = residual variance; ICC = intra-class correlation; ρ01 = correlation between the random intercept and the random slope of pre-sleep rumination.
Higher sleep scores indicate worsened sleep quality.

5. Discussion

The present study aimed to examine the relationship between rumination, stress, and SQ in women using a diary-based design. Specifically, we analyzed both trait-level brooding and daily pre-sleep rumination, as well as trait stress and daily stress, to capture both trait individual differences and day-to-day variations in these psychological processes.

At the daily level, the findings from multilevel modeling suggest that pre-sleep rumination is significantly associated with SQ. Consistent with previous evidence (Åkerstedt et al., 2012; Winzeler et al., 2014), on days when participants reported elevated levels of pre-sleep rumination relative to their weekly average, they experienced significantly poorer SQ that night. In contrast, daily stress was not significantly associated with SQ, nor did it interact significantly with pre-sleep rumination. In other words, when both variables were entered simultaneously as independent variables, pre-sleep rumination accounted for unique variance in SQ above and beyond perceived stress. Notably, correlational analysis revealed a consistent relationship between daily stress and same-day pre-sleep rumination, indicating that women experiencing higher stress during the day were more likely to engage in rumination at bedtime. Despite this co-occurrence, pre-sleep rumination appears to operate as an independent factor in shaping SQ, possibly by carrying over and incorporating the effects of daily stress, thereby overshadowing the direct association of daily stress with sleep outcomes. This interpretation aligns with the literature on pre-sleep cognitive arousal, defined as stress-related hyperactivation occurring around sleep onset (Espie, 2007; Harvey et al., 2005), which directly interferes with sleep initiation and compromises overall SQ. Accordingly, pre-sleep rumination may represent a more proximal mechanism through which daytime psychological burden translates into nocturnal sleep disruption, independently of the level of perceived stress reported during the day. However, some methodological considerations warrant caution in driving these conclusions. First, it is worth noting that the sparse sampling schedule may have constrained the reliability with which within-person variability has been estimated. Intraindividual fluctuations in perceived stress and rumination are known to operate across multiple timescales (Smyth et al., 2023), and three measurement occasions may provide insufficient granularity to model such dynamics adequately. Second, and more broadly, the correlational and observational nature of the study design precludes causal inference. Accordingly, the present findings should be interpreted as preliminary evidence and need replication through experimental or longitudinal designs with more intensive measurement protocols.

At the trait level, trait stress showed a significant association with poorer SQ, consistent with H3 and previous evidence (Lee et al., 2013). Notably, this finding contrasts with the null association between daily stress and SQ: Although daily stress exhibited significant fluctuations over the course of the week (increasing from the weekend to midweek), it showed no significant association with same-night SQ when modeled as a within-person deviation from each participant's weekly average. These results may indicate a relative stability and pervasiveness of trait stress as a psychological vulnerability factor compared with the more transient and context-dependent nature of daily stress. In other words, while women may experience temporary spikes in stress during the week, it is their trait, baseline levels of stress that appear to exhibit a more consistent and deleterious linkage with SQ. Day-to-day fluctuations in stress may be thus less prominent than stable, trait-like stress patterns. As trait stress progressively shapes daily experiences of stress, it may act as the primary driver of sleep disruptions, overshadowing transient day-to-day stress variations. However, given the correlational nature of the study, this conclusion remains tentative and warrants further investigation.

In contrast to expectations, brooding did not exhibit a significant direct linkage with SQ, providing only partial support for H3. Nonetheless, although brooding alone was not significantly associated with SQ in our model, its relationship with SQ became evident when interacting with trait stress. This result supports H4, indicating a combined association of brooding and trait stress with SQ. Specifically, women with average higher levels of trait stress experienced a stronger negative relationship between brooding and sleep. This finding adds nuance to the literature examining rumination as a maladaptive ER strategy associated with SQ (for a review, Clancy et al., 2020), with brooding rumination being particularly linked to sleep problems (Guastella & Moulds, 2007). Cross-sectional studies consistently show that both stress and rumination are detrimental for sleep outcomes. For instance, Tousignant et al. (2019) reported significant indirect effects of stress on SQ through pre-sleep arousal across both low and high levels of rumination. Similarly, other studies have identified rumination as a mediator of the association between stress and sleep (Berset et al., 2011; Du et al., 2020; Li et al., 2019; Liu & Cao, 2022; Matti et al., 2024; Thorsteinsson et al., 2019). Focusing on women, our findings build on this existing evidence by revealing that brooding is associated with poorer SQ among those women prone to experience heightened trait stress. Simple slopes analyses revealed that brooding was significantly associated with poorer SQ only at high levels of trait stress, thus indicating that women who are predisposed to stress are more vulnerable to brooding-related sleep disruptions.

Finally, the present results provide an important contribution to the gender-specific literature on sleep. Women are known to report higher levels of both trait rumination (for a meta-analysis, Johnson & Whisman, 2013), particularly in association with stress (García et al., 2017; Morrison & O'Connor, 2005; Zoccola & Dickerson, 2012), and are more vulnerable to stress-related disorders (Nolen-Hoeksema et al., 2008) and to impaired sleep (Fatima et al., 2016; Luca et al., 2015). Our findings extend this body of research suggesting that the negative association between brooding and SQ is not uniform across individuals, but it is rather intensified in women with high levels of trait stress. The observed interaction between brooding and trait stress points to a compounded vulnerability that may help explain the disproportionate prevalence of sleep disturbances among women, even when daily stress exposure is potentially comparable to that of men. Thus, our results underscore the importance for gender-sensitive approaches to understanding and addressing sleep patterns.

Although – to our knowledge – this is the first study to explore a possible link between pre-sleep rumination, daily stress, and SQ in a sample of women, several limitations must be acknowledged. First, due to statistical power constraints, we were unable to examine potential interaction effects between trait and daily variables. Future studies could investigate whether the relationship between pre-sleep rumination, daily stress, and SQ differs among high-trait ruminators or women with high trait stress.

Another limitation concerns the study design. We conducted three assessments only within a single week, and this reduced number of assessment points may have reduced statistical power to reliably detect within-person effects, thus limiting our ability to capture more nuanced day-to-day fluctuations. As a result, the stability of the observed within-person associations should be interpreted with caution. Future studies could include more frequent assessments over a longer period to better capture the temporal dynamics and variability in pre-sleep rumination, daily stress, and SQ.

Lastly, we did not include objective measures of SQ, relying solely on self-reported data. This choice is consistent with the ecological focus of the study design, in which both independent variables and outcomes were assessed using the same method. Importantly, SQ is a multidimensional construct that varies within individuals, and its overall evaluation partly depends on how individuals subjectively weigh its different components (Harvey et al., 2008). This reflects a well-established distinction between subjective and objective SQ, which do not always converge (Benz et al., 2023; Masaki et al., 2025). In this sense, self-reported SQ may capture psychologically meaningful aspects of the sleep experience that objective measures alone cannot fully reflect, and vice versa. At the same time, relying exclusively on self-report measures may introduce common method variance, potentially inflating the observed associations among variables. Therefore, although this approach was aligned with the ecological focus of the study, the absence of objective indicators represents a limitation. Future research could aim to replicate our findings by incorporating both self-reported and objective measures, such as actigraphy or polysomnography. Combining these approaches could reveal potential discrepancies between perceived and actual SQ, further clarifying the mechanisms underlying sleep impairment.

Despite these limitations, the present study provides new evidence to understand the interplay between rumination, stress and SQ among women on a daily basis. Overall, our findings highlight the maladaptive association between pre-sleep rumination and sleep outcomes and suggest that women experiencing heightened stress are particularly vulnerable to the detrimental relationship of brooding with SQ. These results collectively highlight the importance of targeting both daily fluctuations and trait-level tendencies, potentially informing for future interventions aimed at improving sleep in women. From a practical perspective, these results suggest that interventions aimed at improving sleep should address both stress management, particularly in individuals with higher average trait stress, and the reduction of maladaptive rumination at bedtime.

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The Role of Rumination and Stress in Women's Sleep:
Evidence from a Diary Study
SUPPLEMENTAL MATERIAL

List of Content:

1. Method

1.1. Description of the Full Model Specification Procedure

We specified fixed effects for trait levels of stress and brooding rumination, as well as their interaction, to assess how these stable traits relate to SQ. Additionally, we included daily measures of stress and pre-sleep rumination, along with their interaction, to capture the effects of day-to-day fluctuations on SQ. We person-mean centered the daily variables to capture within-person effects, while trait stress and brooding rumination were grand mean-centered to better capture between-individuals differences (Enders & Tofighi, 2007; Paccagnella, 2006). We also included time as an additional predictor variable to account for temporal trends in the outcome.

Regarding random effects, we followed a systematic procedure to evaluate their inclusion in the model to account for non-systematic variations between individuals (where the individuals serve as the clustering variable). We fitted separate models for each random coefficient (i.e., pre-sleep rumination, daily stress), allowing both random intercepts and random slopes within individuals. This approach enabled each individual to have their own average daily sleep score and unique slopes for the effects of pre-sleep rumination and daily stress on sleep. For each model, we assessed the significance of random effects using the Likelihood Ratio Test (LRT) by comparing a full model, which included the random slope, to a simpler model with only a random intercept (Raudenbush & Bryk, 2002). If the LRT indicated that the random effect was not statistically significant, the random slope was omitted from the final model.

After the steps described, we also compared a model that included all random coefficients simultaneously to a more parsimonious model that retained only the statistically significant random coefficient(s) according to the LRT. Model comparisons were based on the Akaike Information Criterion (AIC; Akaike, 1973) and Bayesian Information Criterion (BIC; Schwarz, 2007) and served as further validation for our model selection process (Müller et al., 2013). This iterative approach ensured a parsimonious model while minimizing the risk of overfitting and convergence issues.

1.2. Attrition and Missing Data Handling

The compliance with the study was good overall. Four percent of the participants did not complete the baseline questionnaire. Concerning the daily assessments, 9.4% of the participants did not complete all the daily questionnaires. The overall sample sizes were thus as follows: Baseline assessment N = 162; Saturday (weekend assessment) N = 147; Sunday (weekend assessment) N = 146; Monday (beginning of the week assessment) N = 148; Tuesday (beginning of the week assessment) N = 153; Wednesday (midweek assessment) N = 147; Thursday (midweek assessment) N = 152.

Missing data were handled using Expectation Maximization (EM) algorithm for imputation. In this process, the algorithm iteratively predicts missing values based on observed data, optimizing estimates by maximizing the likelihood function (Chiorri, 2023; Enders, 2022). The EM algorithm assumes that data are Missing At Random (MAR) and allows for unbiased estimates of both means and variances.

2. Results

2.1. Results From the Full Model Specification Procedure

The ICC coefficient was 0.47 for pre-sleep rumination, 0.25 for daily stress, and 0.32 for daily SQ. These values indicate that all three variables showed substantial variability across individuals (i.e., random intercept variance significantly greater than zero, ICC > 0.05), confirming the appropriateness of a multilevel approach.

When evaluating which random effects to include in the model, the Likelihood Ratio Test (LRT) showed that incorporating random slopes for daily stress did not significantly improve model fit compared to a simpler model that included only a random intercept for the clustering variable, $\chi^2(2) = 0.97$, $p = 0.613$. In contrast, the test revealed that including random slopes for daily pre-sleep rumination significantly enhanced model fit, $\chi^2(2) = 11.51$, $p = 0.003$.

Further comparison between the model including random slopes for both the within-level predictors (i.e., daily pre-sleep rumination and daily stress) and the model including random slope only for daily pre-sleep rumination showed no significant difference in fit, $\chi^2(3) = 1.68$, $p = 0.641$. The AIC and BIC values were lower for the model that included random slope only for daily rumination (AIC = 2622.7, BIC = 2673.2) compared to the model including random slopes for both the predictors (AIC = 2625.8, BIC = 2678.1). Notably, the model including random slope only for daily pre-sleep rumination achieved the best AIC and BIC values across all the models assessed. The LRT, AIC, and BIC results are reported in Table S1 and Table S2 in the supplementary materials. These findings suggested that the simpler model with random slope only for daily rumination provided a better fit for the data.

3. Tables

Table S1 - Models' comparison using AIC and BIC

Model	AIC	BIC
Random slopes only for pre-sleep rumination	2657.472	2707.999
Random slopes only for daily stress	2668.202	2718.729
Random slopes only for both pre-sleep rumination and daily stress	2661.561	2724.720
No random slopes	2665.350	2707.456

Note:

Model with random slopes only for pre-sleep rumination:

Sleep ~ 1 + Pre-sleep Rumination + Daily Stress + Pre-sleep Rumination * Daily Stress + Brooding + Trait Stress + Brooding * Trait Stress + Week Moment + (1 + Pre-sleep Rumination | ID)

Model with random slopes only for daily stress:

Sleep ~ 1 + Pre-sleep Rumination + Daily Stress + Pre-sleep Rumination * Daily Stress + Brooding + Trait Stress + Brooding * Trait Stress + Week Moment + (1 + Daily Stress | ID)

Model with random slopes for both pre-sleep rumination and daily stress:

Sleep ~ 1 + Pre-sleep Rumination + Daily Stress + Pre-sleep Rumination * Daily Stress + Brooding + Trait Stress + Brooding * Trait Stress + Week Moment + (1 + Pre-sleep Rumination | ID) + (1 + Daily Stress | ID)

Model without random slopes:

Sleep ~ 1 + Pre-sleep Rumination + Daily Stress + Pre-sleep Rumination * Daily Stress + Brooding + Trait Stress + Brooding * Trait Stress + Week Moment (1 | ID)

Nsample = 166; Nobservations = 498.

ID = clustering variable.

Daily variables (i.e., Pre-sleep Rumination, Daily Stress) have been centered within clusters. Trait variables (i.e., Brooding, Trait Stress) have been grand mean-centered.

Table S2 - Models' comparison using AIC, BIC, and LRT

Models' comparison	*AIC*	*BIC*	χ^2	*df*	*p*
Random slopes only for pre-sleep rumination	2622.7	2673.2			
Random slopes for both pre-sleep rumination and daily stress	2627.0	2690.1	1.68	3	0.641
Random slopes only for daily stress	2633.2	2683.7			
Random slopes for both pre-sleep rumination and daily stress	2627.0	2690.1	12.21	3	0.007
Random slopes only for pre-sleep rumination	2622.7	2673.2			
Random slopes only for daily stress	2633.2	2683.7	0.00	0	-
No random slopes	2630.2	2672.3			
Random slopes only for daily stress	2633.2	2683.7	0.98	2	0.613
No random slopes	2630.2	2672.3			
Random slopes only for pre-sleep rumination	2622.7	2673.2	11.51	2	0.003
No random slopes	2630.2	2672.3			
Random slopes for both pre-sleep rumination and daily stress	2627.0	2690.1	13.19	5	0.022

Note:
Model with random slopes only for pre-sleep rumination:
Sleep ~ 1 + Pre-sleep Rumination + Daily Stress + Pre-sleep Rumination * Daily Stress + Brooding + Trait Stress + Brooding * Trait Stress + Week Moment + (1 + Pre-sleep Rumination | ID)
Model with random slopes only for daily stress:
Sleep ~ 1 + Pre-sleep Rumination + Daily Stress + Pre-sleep Rumination * Daily Stress + Brooding + Trait Stress + Brooding * Trait Stress + Week Moment + (1 + Daily Stress | ID)
Model with random slopes for both pre-sleep rumination and daily stress:
Sleep ~ 1 + Pre-sleep Rumination + Daily Stress + Pre-sleep Rumination * Daily Stress + Brooding + Trait Stress + Brooding * Trait Stress + Week Moment + (1 + Pre-sleep Rumination | ID) + (1 + Daily Stress | ID)
Model without random slopes:
Sleep ~ 1 + Pre-sleep Rumination + Daily Stress + Pre-sleep Rumination * Daily Stress + Brooding + Trait Stress + Brooding * Trait Stress + Week Moment (1 | ID)
Nsample = 166; Nobservations = 498.
ID = clustering variable.
Daily variables (i.e., Pre-sleep Rumination, Daily Stress) have been centered within clusters. Trait variables (i.e., Brooding, Trait Stress) have been grand mean-centered.

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Unraveling the impact of Prolific: Exploring the presence of bias when studying psychological constructs related to the use of technology

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Abstract

This study investigates potential biases in data collected through online paid platforms, specifically Prolific, compared to traditional snowball convenience sampling, when studying psychological constructs related to technology. The researchers analyzed data from a separate study examining ChatGPT adoption among Italian university students, using both Prolific and snowball sampling methods. Three technology-related constructs were examined: technology self-efficacy (SE), technology anxiety (AX), and social norms related to technology use (SN). Analysis of covariance revealed a significant difference between groups in technology self-efficacy (SE), with Prolific participants exhibiting higher scores. No significant differences were found in AX and SN. The findings highlight potential selection bias, suggesting Prolific may attract participants with higher technological confidence. It is important to stress that this difference may also reflect a combination of self-selection into the platform, the presence of financial compensation, and the inherent biases of convenience snowball samples. The study underscores the importance of considering such recruitment-related biases when generalizing research findings, particularly in technology-related studies, and emphasizes the need for transparency in reporting sampling methods.

Key words: bias, sampling, technology, Prolific, ChatGPT, data quality

Introduction

In recent years, there has been a growing trend in utilizing online paid platforms for research recruitment (Buhrmester et al., 2018; Goodman & Paolacci, 2017; Palan & Schitter, 2018; Peer et al., 2014). These platforms offer a cost-effective means of collecting data from a large pool of individuals in a relatively short period of time (Peer et al., 2014).

There are several online paid platforms for research recruitment. The most commonly used are MTurk (also known as Amazon Mechanical Turk), CloudResearch, Prolific, and Qualtrics (Douglas et al., 2023). Specifically, MTurk recruits participants from its own pool of workers, where surveys are posted and appear on the dashboard of eligible workers who are compensated with Amazon credit; CloudResearch utilizes the MTurk Toolkit to collect data from MTurk, applying quality filters to ensure reliable data, with participants also being paid through Amazon credit; Prolific operates similarly to MTurk but uses its own pool of participants, who are paid by cash for completing surveys; finally, Qualtrics employs various recruitment methods, including direct emails to participants, who are compensated with cash, gift cards, air miles, or coupons based on their preferences (Douglas et al., 2023).

Palan & Schitter (2018) note that Prolific stands out as a platform specifically dedicated to online research recruitment, unlike general crowd working platforms such as MTurk. Prolific is designed to offer targeted recruitment standards and clearly inform participants that are taking part in research studies (Bock et al., 2014; Greiner, 2015; Palan & Schitter, 2018). Thanks to these characteristics, the platform effectively combines high data quality and reasonable costs, making it very popular among researchers in various fields, including economics (Marreiros et al., 2017) and psychology (Douglas et al., 2023).

The main concerns when using online platforms for data collection are issues related to data quality and sampling (Newman et al., 2021). Several studies have compared the quality of data obtained from online recruitment platforms with data from traditional sources, consistently demonstrating that online platforms can provide high-quality data. Participants recruited through these platforms tend to pass attention checks, perform well on tasks, and score high on measures of reliability (Hauser & Schwarz, 2016). For example, a meta-analysis by Walter et al. (2019) examined 90 independent samples involving 32.121 participants and found that data collected via online platforms showed psychometric properties and validity comparable to traditional sources. In particular, estimates derived from online panel data fall within the credible range (i.e., statistical intervals used to express the uncertainty around an estimate) of estimates obtained from traditional data sources. A more recent study by Douglas et al. (2023) evaluated data quality across different platforms, including MTurk, Prolific, CloudResearch, Qualtrics, and a system used at the University of Wisconsin-Madison to recruit undergraduate students for research participation. The study assessed various quality indicators such as attention checks, response times, scale reliabilities, and test-retest consistency. It also looked at open-ended responses, video content recall, and participant uniqueness. The results indicated that Prolific consistently provided the highest data quality, with participants excelling in attention checks, video recall tasks, and maintaining reliable and consistent data. Moreover, Prolific offered an excellent balance between quality and cost, with a cost per high-quality respondent that was considerably lower than MTurk and Qualtrics, and comparable to CloudResearch.

Albert and Smilek (2023) highlighted differences between Prolific and MTurk in terms of attentional engagement. Their study revealed that MTurk samples showed greater disengagement, higher rates of multitasking, and lower task performance. Also, Arechar and Rand (2021) found that Prolific participants exhibited higher engagement than those on MTurk. This difference is attributed to Prolific's compensation policy, which incentivizes higher data quality by allowing researchers to withhold payment for responses showing signs of disengagement or inattention.

In conclusion, the evidence indicates that Prolific is the leading online paid platform for research recruitment, providing the highest data quality in terms of participant engagement, reliability, validity, reproducibility, attentional bias, participant diversity, and overall response quality. Given these strengths, Prolific emerges as the superior choice for researchers seeking reliable and cost-effective data collection solutions.

In recent years, data collection practices in psychology have shifted from reliance on traditional convenience and snowball sampling toward the recruitment of participants through paid online platforms such as Prolific. Whereas snowballing was once among the most common sampling strategies, online platforms are now increasingly adopted for their efficiency and reach. Importantly, this shift raises the question of whether the change concerns only recruitment procedures or also reflects a substantive transformation of the sampling frame. In other words, the transition may be not only methodological but also demographic, as the populations accessible through Prolific may differ systematically from those typically reached via traditional recruitment methods.

Regarding sampling concerns, participant recruitment methods must always be taken into account – whether through online recruitment platforms like Prolific or MTurk, or through traditional methods – as it can introduce significant biases. Indeed, participants may choose to take part in particular research projects based on individual preferences, personal experiences, or other undisclosed factors, which could potentially influence the research findings (Cheung et al., 2017). All these factors related to participant selection and data collection procedures represent potential biases and could affect the outcomes of research, especially when investigating any psychological construct (Buchanan, 2018; Cheung et al., 2017).

Some researchers have raised concerns about the personality profiles of respondents who choose to participate in studies using online paid platforms for research recruitment, as the results may be skewed by the participants' personality traits, potentially affecting the generalizability of the findings. For instance, Buchanan's (2018) study found that participants recruited through online paid platforms tend to have higher levels of "Openness to Experience," one of the Big Five personality traits. This could have significant implications for the other constructs being studied.

We argue that the psychological profiles of respondents participating in studies using online paid platforms, compared to the ones of respondents selected through traditional sampling methods, may differ, not only in terms of personality but also in technology-related psychological constructs such as self-efficacy, anxiety, or perceived social norms regarding technology use. This is because people who choose to register on platforms like Prolific likely have a certain level of technological proficiency, making technology a particularly relevant domain for them.

We believe that the field would benefit from a greater focus on how much online paid platforms provide (un)biased data depending on the nature and content of the constructs being explored. In the current study we verified whether respondents collected through paid platforms are comparable to respondents collected through traditional sampling in the specific case the studies investigate technology-related psychological constructs. The decision to compare respondents collected through paid platforms with those gathered via traditional sampling methods, particularly snowball convenience sampling, is based on the fact that the aforementioned studies utilize this type of sampling as a traditional source (Hauser & Schwarz, 2016; Walter et al., 2019). We utilized data from a separate study investigating technology-related constructs. This study employed both Prolific and traditional recruitment methods to gather data. Specifically, the study examined ChatGPT adoption among 410 Italian students; 202 were recruited via snowball convenience sampling, and 208 via Prolific. The variables from this study relevant to our research are technology self-efficacy (SE), technology anxiety (AX), and social norms related to technology use (SN).

In particular, technology self-efficacy (SE) refers to an individual's confidence in their ability to effectively use technological tools to achieve specific goals (Ni & Cheung, 2023). Technology anxiety (AX) describes the negative emotions and discomfort that individuals may experience regarding the use of technology. This anxiety can negatively impact technology adoption, as anxious individuals tend to feel reluctant or hesitant to use technological tools, especially when they fear they may not be able to use them successfully (Ni & Cheung, 2023). Finally, social norms (SN) related to technology use indicate the perceived social pressure individuals feel when deciding whether or not to adopt a specific behavior, such as using technology. Social norms influence people's decisions by serving as a justifying factor and can determine the intention to engage in a particular action based on what others consider appropriate or desirable (Aburbeian et al., 2022).

The present study

The present study aims to examine whether data collected through Prolific differ from data collected through traditional snowball convenience sampling when investigating psychological constructs related to technology. Although previous research has consistently demonstrated that online paid platforms provide high-quality data (e.g., Douglas et al., 2023; Walter et al., 2019), less is known about whether these samples are comparable to those obtained through traditional recruitment methods when the constructs under study are closely tied to technology use. This gap is particularly relevant because individuals who choose to register on Prolific are likely to possess a certain level of technological proficiency, which may affect their responses on technology-related measures.

Based on this reasoning, the present study set out to examine whether participants recruited through Prolific differ from those recruited via snowball sampling with respect to technology-related psychological constructs. We focused on three dimensions that are particularly relevant when considering individuals' relationship with technology: technology self-efficacy (SE), technology anxiety (AX), and social norms related to technology use (SN). In line with the assumption that individuals registered on Prolific are typically more familiar and comfortable with digital tools, we hypothesized that Prolific participants would report higher scores on all three constructs.

Method

Participants

Among the 410 Italian university students who participated in the study, 202 were recruited through snowball convenience sampling and 208 via Prolific. Inclusion criteria for both groups included being Italian and being university students.

A total of 202 participants, aged between 19 and 36 years, were recruited using snowball convenience sampling. (M = 22.35; S.D. = 2.39). The majority of participants, (66.2%), identified as female and were enrolled in a psychology faculty (31.1%), followed by those in an engineering faculty (15.3%). More broadly, according to the MIUR classification (Ministry of Education, University, and Research [MIUR], 2019), 64.9% of these participants are enrolled in a humanities or social sciences, and 35.1% in a scientific or technological faculty.

The remaining 208 participants were recruited via Prolific and were aged between 20 and 32 years (M = 24.10; S.D. = 2.52). The majority, (51.0%), identified as female and were enrolled in an engineering faculty (18.8%), followed by those in foreign languages and literature faculties (13.9%). More broadly, according to the MIUR classification (2019), 47.6% of these participants were enrolled in humanities or social sciences, and 52.4% in a scientific or technological faculty.

To determine if the two samples – one collected through snowball convenience sampling and the other via Prolific – were equivalent in terms of gender, age, and field of study, we conducted two chi-square analyses (for the categorical variables, gender and faculty) and a binary logistic regression (for the continuous variable, age). As the two sub-groups were not equally balanced for gender [χ^2 (1) = 8.584; p = .003; Cramer's V = .146; n = 401], field of study [χ^2 (1) = 11.269; p < .001; Cramer's V = .174; n = 372], and age [OR = 1.375, p < .001; Nagelkerke R^2 = .158; n = 410], we included these three socio-demographic variables as control variables in the following analysis and we run to compare the two samples regarding their levels on technology-related psychological constructs.

Procedure

The study was approved by the Ethics Committee of Università Cattolica del Sacro Cuore, and all participants provided written informed consent before participating in the research. The study consisted of a survey administered online. Participation in the survey was voluntary, whereby participants were recruited in May 2023 using a combination of snowball convenience sampling and the Prolific platform. Participants recruited through snowball convenience sampling did not receive any compensation, while those recruited through Prolific were compensated according to the platform's guidelines. Email invitations were sent to university students aged 18 and older. All university students who received the email invitation were asked to share the survey with other Italian university student. Individuals who agreed to take part in the study received online informed consent in accordance with the Declaration of Helsinki and, if the consent form was signed, participants were given access to the survey. The online survey was administered through Qualtrics and took approximately 20 minutes to be completed.

Measures

Besides providing socio-demographic data, participants were asked to complete different questionnaires. The variables used for this study are technology self-efficacy (SE), social norms related to technology anxiety (AX), and technology use (SN). These variables were all composed by items evaluated on a Likert scale from 1 ("strongly disagree") to 5 ("strongly agree"). For each scale, Confirmatory Factor Analysis (CFA) was performed. For further details on the factor structures of the scales, please refer to the original paper (Caliciuri et al., under review).

Specifically, *technology self-efficacy* (SE) was measured through four items taken from the study by Ni and Cheung (2022), for example: "I am able to use a new technology even if there is no one to show me how"; internal consistency score was good (McDonald's ω = .887). *Technology anxiety* (AX) was evaluated through four items taken from Guner and Acarturk (2020), for example: "I hesitate to use new technologies for fear of making mistakes that I cannot correct"; internal consistency score was good (McDonald's ω = .830). Finally, *social norms related to technology use* (SN) were assessed through two items taken from the study by Aburbeian et al. (2022), for example: "Others' opinions about new technologies influence my intention to use them"; these two items are adequately correlated with each other (Spearman $\boldsymbol{\rho}$ = .452) suggesting that the score is reliable (Eisinga et al., 2013).

Data Analysis

We first estimated descriptive statistics for each variable of the study using SPSS (version 29; IBM Corp., 2023).

To investigate potential differences between the two samples in the three technology-related variables (SE, AX, SN), we conducted three ANCOVAs or Analysis of Covariance. ANCOVA is a statistical technique that allows us to examine whether there are significant differences between groups on a dependent variable while controlling for the effects of one or more covariates. In our analysis, the independent variable was the sample origin (Prolific vs. Snowball Convenience), while the technology-related variables (SE, AX, SN) were included individually as dependent variables in the model. Additionally, since the two samples were not equivalent in terms of gender, age, and field of study, the model controlled for these demographic variables as covariates. To this end, we examined the main effect not only of the sample origin but also of the three control variables: gender, age, and field of study. This approach allows us to claim that the main effect of the sample origin can be significant regardless of the main effects of the control variables (Jamieson, 2004; Stanley, 2022). Furthermore, we also included all the interaction effects involving the independent variable "sample origin" in order to verify how its effect interacted with the control variables (Jamieson, 2004; Stanley, 2022). All analyses were performed using SPSS version 29 (IBM Corp., 2023).

Results

Descriptive Statistics

In Table 1, we reported the mean and the standard deviation for each variable investigated in this study, divided by the two samples collected.

Tab. 1 - Descriptive Statistics

			Snowball convenience sample		Prolific sample	
	min	max	M	S.D.	M	S.D.
Technology self-efficacy (SE)	1	5	3.68	0.84	4.16	0.68
Technology anxiety (AX)	1	5	2.29	0.97	2.00	0.80
Social norms related to technology use (SN)	1	5	2.42	0.98	2.54	0.88

Note. Snowball convenience sample*, N = 202; Prolific sample, N = 208.*

ANCOVA

To investigate potential differences between the two samples in the three technology-related variables (SE, AX, SN), we conducted three ANCOVAs.

Regarding technology SE, the test of between-subjects effects indicates a significant effect of the sample origin, [F (1,291) = 8.924; p = .003; η^2 = .030; n = 365] controlling for control variables (gender, field of study, age). These findings indicate that the technology SE score, regardless of respondents' gender, age, and field of study, is always higher in the sample recruited through Prolific (M = 4.17; S.D. = .69) compared to the snowball convenience sample (M = 3.69; S.D. = .83). All the interaction effects involving sample origin are not significant: sample origin*gender [F (1,291) = .008; p = .927]; sample origin*age [F (1,291) = .514; p = .824]; sample origin*field of study [F (1,291) = .588; p = .444].

Regarding technology AX, the test of between-subject effects reveals a non-significant effect of sample origin, [F (1,291) = 1.491; p = 0.223; η^2 = .005; n = 365]. All the interaction effects involving sample origin are not significant: sample origin*gender [F (1,291) = .120; p = .730]; sample origin*age [F (1,291) = .593; p = .762]; sample origin*field of study [F (1,291) = 1.067; p = .302].

Regarding SN related to technology use, the test of between-subjects effects indicates a non-significant effect of the sample origin, [F (1,290) = 1.784; p = .183; η^2 = .006; n = 364]. All the interaction effects involving sample origin are not significant: sample origin*gender [F (1,290 = .065; p = .799]; sample origin*age [F (1,290) = .731; p = .646]; sample origin*field of study [F (1,290) = 2.320; p = .129].

Discussion

In recent years, there has been an increasing trend in the use of online paid platforms for research recruitment (Buhrmester et al., 2018; Goodman & Paolacci, 2017; Palan & Schitter, 2018; Peer et al., 2014). Among these platforms, Prolific stands out as one of the most widely used for research recruitment. Unlike general crowd working platforms such as MTurk, Prolific is specifically dedicated to online research recruitment (Palan & Schitter, 2018). This platform effectively balances high data quality with reasonable costs, making it highly popular among researchers across various fields (Douglas et al., 2023).

Key concerns in using online platforms for data collection revolve around data quality and sampling issues (Newman et al., 2021). Numerous studies have compared the quality of data obtained from online recruitment platforms with that from traditional sources, consistently demonstrating that online platforms can yield high-quality data. In this context, the studies we reviewed (Albert and Smilek, 2023; Arechar & Rand, 2021; Douglas et al., 2023; Walter et al., 2019) highlight that Prolific is the leading online paid platform for research recruitment, offering superior data quality in terms of participant engagement, reliability, validity, reproducibility, attentional bias, diversity among participants, and overall response quality. Regarding sampling concerns, it is crucial to consider participant recruitment methods, as these can introduce significant biases. Participants may choose to participate in specific research projects based on individual preferences, personal experiences, or other undisclosed factors, which could potentially impact the research findings (Buchanan, 2018; Cheung et al., 2017). Additionally, it is essential to consider whether the results obtained from individuals registered on Prolific (or similar platforms) can be generalized to those who are not registered, assuming that there are no differences between the two types of respondents.

In the current study, we aimed to determine whether respondents recruited through paid platforms (Prolific) are comparable to those gathered through traditional sampling methods, particularly in the context of studies investigating technology-related psychological constructs. We expected individuals who decided to register in a platform that implies the use of technology (e.g., online surveys) may be not fully comparable to individuals not registered to such platforms, particularly with respect to technology-related psychological constructs such as self-efficacy, anxiety, or perceived social norms regarding technology use. The choice to compare respondents collected via paid platforms with those obtained through traditional sampling methods, specifically snowball convenience sampling, was due to the fact that the previously mentioned studies utilized this sampling method as a traditional source (Hauser & Schwarz, 2016; Walter et al., 2019). To this end, we analyzed data from a separate study exploring technology-related constructs, which employed both Prolific and traditional recruitment approaches. This study specifically investigated ChatGPT adoption among 410 Italian students, with 202 participants recruited through snowball convenience sampling and 208 through Prolific. The relevant variables from this study include technology self-efficacy (SE), technology anxiety (AX), and social norms related to technology use (SN).

To investigate potential differences between the two samples in the three technology-related variables (SE, AX, SN), we conducted three ANCOVAs. The results reveal a significant effect of sample origin only when comparing the two groups in terms of technology self-efficacy. Specifically, participants from Prolific exhibited significantly higher technology SE scores compared to those recruited through snowball sampling, even after controlling for potential confounding variables such as gender, age, and field of study. This finding suggests that Prolific may attract individuals with a naturally higher level of technological confidence. Participants who choose to join studies through Prolific may, on average, possess higher technological self-efficacy than those recruited through snowball sampling. This difference raises questions about the generalizability of findings obtained using Prolific, particularly when examining constructs directly related to technological proficiency. The study's results might over-represent individuals with higher technological self-efficacy if generalized to the broader population. Instead, our analysis indicated that technology anxiety and social norms related to technology use did not exhibit significant differences based on the sampling origin. However, our results suggest that this advantage may not be uniform across all domains, since Prolific samples may also introduce specific biases when the constructs under investigation are closely tied to technology. Thus, while Prolific represents an efficient and generally reliable tool for data collection, caution is warranted in assuming that it is universally superior across research contexts.

Despite our promising findings, they should be interpreted with caution, considering that the two groups we compared (Prolific vs. Snowball Convenience) also differed substantially in their demographic composition, particularly in terms of field of study: 52.4% of Prolific participants were enrolled in scientific or technological faculties, compared to 35.1% of the snowball sample. Although this imbalance was statistically controlled for in the ANCOVA, such a marked difference suggests that the two samples may reflect distinct underlying populations. In this sense, statistical adjustment does not completely eliminate the impact of structural differences, and the interpretation of adjusted means should therefore be made with caution (Jamieson, 2004; Stanley, 2022). As highlighted in methodological discussions (Miller & Chapman, 2001), ANCOVA can be problematic when groups differ substantially on covariates, since the assumption of homogeneous regression slopes may not hold. This reinforces the need to interpret our findings as preliminary and exploratory, rather than definitive evidence of differences between Prolific and traditional samples.

Implications

The findings of this study have important implications for researchers who are selecting samples utilizing the Prolific or similar platforms.

First, the issue of selection bias is particularly noteworthy. Our research highlights the potential for a selection bias even when utilizing the Prolific platform. This platform may attract individuals with specific profiles, in particular those who exhibit higher levels of technological self-efficacy. This result aligns with the findings of Buchanan (2018), who demonstrated that participants recruited through online paid platforms tend to have higher levels of "Openness to Experience," one of the Big Five personality traits. These preliminary findings suggest that researchers should be aware of this potential bias generated by the use of Prolific or similar platforms and should consider the implications it has on the generalizability of their findings to broader populations. Recognizing this could help mitigate the skewing of results and lead to more accurate interpretations.

Second, transparency in recruitment methods is paramount. Researchers should explicitly report their sampling strategies and acknowledge any potential biases associated with specific techniques. This level of transparency will not only enhance the reproducibility of research findings, but also bolster their validity, allowing for a clearer interpretation of results within the broader context of psychological research.

The findings of the study underscore the complexities involved in generalizing data from online platforms, such as Prolific, to traditional research methods. While Prolific consistently provides high-quality data in many studies, our findings as well as Buchanan (2018)'s findings caution against assuming homogeneity in participant characteristics across psychological constructs. The results emphasize the need for careful consideration of participant selection methods and their potential impact on study findings, particularly in technology-related research, to avoid potentially biased interpretations.

A further implication of our findings concerns the importance of transparency in recruitment methods. Researchers should clearly describe how participants were recruited, whether participation was compensated, and what potential biases these procedures might introduce. Such transparency is essential for evaluating the reproducibility and interpretability of results and for ensuring the validity of psychological research in the digital age. Explicit reporting of recruitment strategies enables readers to critically assess the extent to which findings can be generalized beyond the specific sample studied.

Our findings also suggest that Prolific should not be regarded as a definitive solution to sampling bias, as it replaces one type of bias (e.g., homogeneity of snowball networks) with another (e.g., self-selection of online platform users).

Limitations and Future Directions

The findings of this study should be interpreted in light of several limitations. Firstly, our research was exploratory and utilized secondary data, derived from a study designed with a different objective. Second, our comparison involved a Prolific sample and a snowball convenience sample. By definition, snowball samples are prone to strong recruitment bias, as they tend to be homogeneous and reflective of the social networks through which they are disseminated. This structural non-equivalence makes it difficult to attribute observed differences exclusively to the nature of Prolific as a recruitment platform. Finally, the two samples differed in compensation: Prolific participants were paid, whereas those in the snowball sample were not. This introduces a fundamental confounding variable, since economic motivation may be associated with personality traits, socioeconomic status, or even higher confidence in technology. The gap in self-efficacy observed between the two groups could therefore reflect a combination of self-selection processes on Prolific, the presence versus absence of compensation, and the inherent biases of snowball sampling (e.g., the over-representation of humanities students). Because our design does not allow disentangling these effects, conclusions must be interpreted with caution. Future research should address these limitations by comparing Prolific with probabilistic or randomized online samples, and by contrasting paid versus unpaid recruitment strategies. Nonetheless, the results we obtained are promising and suggest that pursuing studies in this direction is worthwhile. Future research should aim to address our limitations, specifically: (1) ensuring the inclusion of balanced samples for sociodemographic variables, as our two samples were imbalanced in terms of gender, age, and field of study; and (2) incorporating a greater number of psychological constructs where differences between sampling methods are anticipated. Therefore, more targeted research is needed to compare sampling methods.

Conclusion

In conclusion, our study highlights the importance of recruitment platform choice in psychological research. Our findings indicate potential selection biases, notably that participants recruited through Prolific exhibit higher technology self-efficacy than those from traditional snowball convenience sampling methods. However, it is important to recognize that these differences cannot be attributed solely to the Prolific platform. They may instead result from a combination of factors, including self-selection processes on Prolific, the economic motivation associated with financial compensation, and the structural biases of snowball recruitment. These considerations underscore that no single sampling strategy is free from limitations, and that caution is warranted when generalizing results obtained through one specific method. Future research should further investigate how different recruitment strategies shape sample characteristics and study outcomes, as well as identify conditions under which each approach may be most appropriate for psychological research.

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The quality of school inclusion of children with special educational needs in a multidimensional perspective: A systematic review

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Abstract

The quality of school inclusion could be considered as a crucial feature for children and adolescents, especially for those with developmental disabilities.
Starting from the QU!S-S model that focuses on the quality of school inclusion in a multidimensional perspective, this systematic review has the main aim to examine the key elements of the quality of school inclusion.
According to PRISMA guidelines, a systematic search strategy was adopted. First, 7134 records were identified through database searching; then, the title-abstract screening led to the identification of 742 potentially relevant studies and, finally, after the full-text screening, 23 studies were included.
Outcomes show some key elements of the quality of school inclusion such as the presence of effective responses to individual needs, the tendency to adapt teaching strategies to different situations, and the cooperation inside and outside the school. These key elements can have positive effects on the general quality of life of students, especially for those with developmental disabilities.
Furthermore, findings highlight that only a few studies considered the quality of school inclusion following a multidimensional approach.
This systematic review can offer readers insights into good policies and practices to adopt in the school setting to promote school inclusion, and well-being for students, especially those with developmental disabilities.

Keywords: quality of school inclusion; special educational needs; school, QU!S-S model.

1. Introduction

The aim of this contribution is to analyze research published between 2013 and 2023, focused on the quality of school inclusion, considered as a multidimensional construct. To achieve this objective, we rely on the five dimensions model proposed by the Quality Scale of Inclusive School Development-Short Form by Heimlich et al. (2018).

Several authors have highlighted how, despite the international trend towards the creation of inclusive educational settings present for many decades (Lindner & Schwab, 2020), there are still many differences between different countries and contexts in overcoming barriers that prevent effective and equitable education for all children (Ainscow, 2020). Furthermore, the very meaning of school inclusion is not univocal, and many meanings of the term are present both in the applied and theoretical fields. Consequently, as Florian pointed out in 2014 (p. 286), a clear working definition of school inclusion is needed "to capture evidence of inclusive education in action".

A number of reviews have been published over time about specific aspects of school inclusion. They concern teachers' attitudes (De Boer et al., 2011; Ewing et al., 2018; Perez et al., 2021; Lindner et al., 2023); role of peers (de Boer et al., 2012; Woodgate et al., 2019); interventions implemented in inclusive classrooms (Hagiwara et al., 2019); factors influencing school inclusion of specific populations as attention deficit hyperactivity disorder (Olsson, 2022) or autism spectrum disorders (Bayley and Baker, 2020) but all these reviews consider only one aspect of the multidimensionality of the school inclusion construct.

On the other hand, only a limited number of reviews have addressed the multidimensional nature of the process in order to analyze a broad range of indicators and outcomes of school inclusion.

In 2014, Loreman and colleagues presented a review of the international literature aimed at taking stock of current indicators of school inclusion emerging from the literature. Taking into account the macro, meso and micro levels, they analyzed several indicators pertaining to different phases of inclusion: input, that is provisions by the system to achieve an inclusive education; process, that is practices and concrete ways of working in schools and classrooms; outcome, that is achieved results at many levels (learning achievements, satisfaction …).

Lindner and Schwab (2020), in their systematic review of papers published from 2008 to 2018 regarding teachers' practices and their characteristics in terms of differentiation and individualization, identified five useful areas for dismantling barriers and promoting an inclusive school climate: instructional practice, organizational practice; social/emotional/

behavioral practice; collaboration and teamwork; determining students' progress.

Ainscow (2020), starting from a historical and contextual analysis of provisions, agreements, concepts, and policies that have promoted educational inclusion in the world, proposed a theoretical framework useful to promote inclusion and equity in educational contexts.

First of all, the model considers central the ability of the school system to evolve and change in order to support the participation and learning of all students. In turn, this capacity is influenced by several contextual factors: the extent to which educational policy is informed and guided by principles of inclusion and equity; the ability to collect evidence on the impact of the education system in terms of presence, participation and performance of all students, especially those at greatest risk of marginalization; the involvement of the entire community (parents, teachers and other professionals; administrators, researchers...) in promoting inclusive and equitable education; finally, the role of national and local administrators in removing barriers and promoting cultural changes towards the application of universal principles of inclusion and equity.

Although the scientific contribution of these systematic reviews is considerable and indicate that the construction of school inclusion is multidimensional, these reviews do not reveal the relationships that exist between various dimensions and do not indicate possible gaps in the literature.

The theoretical model which guided this systematic review is the QU!S-S model. The QU!S-S model originates from the Quality Scale of Inclusive School developed in Germany by Heimlich et al. (2018), then translated and adapted in English in its short form (Schurig et al., 2020), and recently published in its Italian adaptation (Zanobini et al., 2024). The scale represents a self-report tool aimed at teachers and requires them to respond keeping in mind the actual reality of their school. This involves sticking to the concrete implementation of the inclusion process in its various aspects.

Moreover, the model presents characteristics in line with the current perspective on the quality of school inclusion: it refers to a plurality of dimensions and takes into account, as advocated by Ainscow, indicators relating to individuals, schools, external services and the whole community. In this direction, it proposes an ecological model and systematically moves from the individual level, focusing on students' needs and teachers' responses, to cooperation between the actors of the process, and finally to the macro levels of school policies and the involvement of the entire community (Zanobini et al., 2024).

The first level concerns the ways in which the school takes into account the needs of all students through the instruments dedicated to planning and monitoring the educational project; the second level is centered on teaching and its adaptation to the abilities and characteristics of all students; the third concerns the crucial dimension of cooperation within the teaching team; at the fourth level we find the analysis of school policies and the participation of all school components in the process; finally, the involvement of families and a variety of stakeholders and external support services is considered.

Understanding how and if literature has saturated all levels of the QU!S-S model would not only offer practical insights to improve the quality of school inclusion, but it would also allow to understand the gaps in the literature in order to broaden knowledge about the topic.

Starting from these premises, this systematic review aims to highlight the indicators of the quality of school inclusion investigated in psychological and educational research of the last ten years, and to analyze in depth those relating to the QU!S-S model. Specifically, the paper focused on the following questions:

- RQ1 How does the school take into account the needs of all students?
- RQ2 Which are the factors that make teaching inclusive?
- RQ3 How do relationships among various school actors promote the quality of school inclusion?
- RQ4 How do school concept and life promote school inclusion?
- RQ5 How do external support and communal networking impact on the quality of school inclusion?

2. Method

A systematic search strategy was used to identify relevant studies, following the PRISMA statement (Page et al., 2021). Figure 1 shows a flow diagram illustrating the search process and the identification of included studies.

2.1. First phase: literature search

The literature search was conducted in May 2023, including the following databases: Scopus, PubMed, and PsycINFO.

We designed a general query to encompass all levels of the QU!S-S model, using the keywords: "School" AND ("quality of inclusion" OR inclusion) AND ("special need*" OR disability OR "developmental disorder") AND ("student*" OR teach*).

For the first level, the query used was: "School" AND "inclusion" AND ("special need*" OR disability OR "developmental disorder") AND ("individual characteristic*" OR "individual need*") AND "student*". For the second level, the query was: School AND inclusion AND ("special need*" OR disability OR "developmental disorder") AND "inclusive teaching" AND student* AND teacher*. The third level query was: school AND inclusion AND ("special need*" OR disability OR "developmental disorder") AND ("interdisciplinary cooperation" OR "professional team cooperation" OR teamwork) AND teacher*. For the fourth level, we used: School AND inclusion AND ("special need*" OR disability OR "developmental disorder") AND ("school life" OR "school concept"). Finally, for the fifth level, the query was: "School" AND "inclusion" AND ("special need*" OR disability OR "developmental disorder") AND ("communal networking" OR "external support").

This comprehensive search strategy initially yielded 7134 articles. After removing duplicates, 6434 articles remained.

2.2. Second phase: title-abstract screening

In the title-abstract screening phase, the first three authors[1] independently and blindly reviewed all titles and abstracts. The agreement between reviewers was 98.45%.

In this phase, the selection process followed a set of inclusion criteria:

1. Studies were published in psychological and/or educational journals from January 2013 to May 2023;
2. Studies were written in English or Italian;
3. Studies were published in peer-reviewed journals, including original empirical findings;
4. Studies included a school population ranging from early childhood to the final year of high school;
5. Studies included a sample of participants greater than 10;
6. Studies were conducted in the school context.

In addition, in this phase we decided to exclude all studies that (i) were published in books or grey literature; (ii) were review articles; (iii) were conducted in special classes; (iv) focused on specific disabilities; (v) were descriptions and/or validations of specific interventions.

[1] The first three authors divided the papers in a way that ensured agreement between two reviewers for each level of the QU!S-S.

Articles that did not provide sufficient information to determine inclusion were carried forward to the full-text screening phase. A total of 742 references proceeded to full-text screening.

2.3. Third phase: full-text screening

In the full-text screening phase, we added the following exclusion criteria to assess the records: (i) papers that reported studies conducted using unvalidated tools, (ii) papers that didn't investigate QU!S-S variables; (iii) papers that only considered teachers' perceptions, attitudes and values.

In this phase, the percentage of agreement was 97.44%. All disagreements were resolved by discussion.

Finally, a total of 23 papers have been included in the current systematic review.

2.4. Coding strategies

To analyze the results section, we employed a manual coding approach (paper-and-pencil method), focusing exclusively on the results sections of the selected articles. This process was used to draft the results section of the present systematic review and to map all included studies according to the QU!S-S model (for details, see Table 1).

Table 1 - Study Overview

Level 1 of QU!S-S							
Study: 1st author	Country	Special schools in the country	Age / grade	Sample	Measures	Data analysis	Main findings
Rakap, S. (2019)	Turkey	Yes	Primary	206 IEPs (from 60 inclusive elementary schools across 26 cities; referring to students with disabilities, mainly intellectual disabilities and autism; age, gender, SES and immigrant background not reported)	IEP Component Checklist (IEPCC)	Descriptive statistics, percentages	Results outlined that the reviewed IEPs on average included only one-third of the legal requirements, and the components recommended by the literature were rarely included.
Shapiro, A. (2023)	USA	Yes	Kindergarten, Primary, Lower secondary	1,285,165 (students from 10 cohorts followed longitudinally; includes demographic variables such as gender, race/ethnicity and SES; specific distributions not reported)	Data from the Michigan Education Data Center (MEDC) – Michigan Department of Education (MDE).	Regression discontinuity design	Children who enter kindergarten at 4 years of age are more likely to be enrolled in special education than their 5 years old classmate and this effect is consistent through time (5th and 8th grade).
Yngve, M (2019)	Sweden	Yes	Upper secondary	484 (students with SEN; mean age = 17.3; includes neuropsychiatric and learning difficulties; ~50% without diagnosis; gender, SES and immigrant background not reported)	School Setting Interview (SSI)	Logistic regression analysis	The results outline that students studying in a vocational programme or with a neuropsychiatric disorder and a high level of school absence present a high level of accommodation needs. The data outline roughly 50% of the students perceive that they have not received support in school activities related to academic performance, such as “remembering things,” “writing,” and “doing homework”.

Ge, Z. (2019)	China	Yes	Lower secondary	8252 (students with and without disabilities; longitudinal sample; type and severity of disability, gender, SES and immigrant background not reported)	Cognitive ability: standardized test (Hao & Yu, 2017). Short version of the Center for Epidemiologic Studies-Depression (CES-D) (Radloff, 1977).	regression estimates	The results outline those children with disabilities had lower scores in all the measures in both T1 and T2. Nevertheless, the cognitive gain was similar between children with and without disabilities. Furthermore, both categories had a decline in school attachment and emotional well-being, but the decline was more prominent in children without disabilities.
Level two of QU!S-S							
Study: 1st author	Country	Special schools in the country	Age / grade	Sample	Measures	Data analysis	Main findings
Coelho, V. (2019)	Portugal	No	Kindergarten	184 (preschool children; 45 with disabilities, 59 at risk, 80 typically developing; age range, gender, SES and immigrant background not reported)	Child Observation in Preschool (COP; Farran & Anthony, 2014) Classroom Assessment Scoring System (CLASS; Pianta et al., 2008)	Pearson's correlation Multilevel regressions	Children with disabilities are less engaged in classroom activities compared to peers without disability. Whole group activities have a detrimental effect on children with disabilities engagement level but, on the other hand, free play had greater positive effects on child engagement.
Cameron, D., L., (2014)	USA	Yes	Kindergarten, Primary, Lower secondary	17 classrooms; 7 teachers (students in 9 schools; includes mild and severe disabilities; student-level age, gender, SES not reported)	Inclusive Classroom Observation System (ICOS; see Cameron et al., 2012)	Quantitative descriptive analysis of the number of interaction (percentages)	Results outline a traditional organisation of the classroom, with general educators rarely involved in interaction with whole class and special education teachers and

					Semistructured interview	Qualitative analysis of interview content	paraprofessionals dedicated to 1:1 interaction with children with disability. In the interview, teachers report struggling to find a balance between the needs of the whole class and those of students with disabilities.
Feldman, R., (2016)	USA	Yes	Upper secondary	108 (students with severe disabilities; ASD and intellectual disability; 63.9% male; majority European American; ~30% low SES; age range not reported)	MOOSES (Multi-Option Observation System for Experimental Studies; Tapp, 2012)	Observation of presence in class and peer proximity over time	Students with disability were not present for a substantial proportion of the classes in which they were enrolled, and they were infrequently in proximity to classmates without disabilities when they were present
Jackson, L., (2022)	USA	Yes	Kindergarten, Primary, Lower and Upper secondary	117 (students across school types; demographic variables collected at multiple levels; specific distributions not reported)	Student Demographic Survey Classroom Demographic Survey School Demographic Survey District Demographic Survey	Comparison of the demographic data between inclusive school, partially inclusive school, and special education school	Special education of partially inclusive schools may provide less opportunities and resources for students' learning and development
Vlachou, A. (2016)	Greece	No	Kindergarten	52 classes (preschool settings; children aged approx. 4-6; individual-level gender, SES and immigrant background not reported)	Inclusive Classroom Profile (Fyssa & Vlachou, 2012) School system information and teacher's demographics survey	ANOVA Spearman's Rho	The quality of inclusive teaching practice ranged from 'low' to 'minimal'; furthermore, data did not outline any significant relation between kindergarten inclusion quality and demographics

Level three of QU!S-S							
Study: 1st author	Country	Special schools in the country	Age / grade	Sample	Measures	Data analysis	Main findings
Schwab (2015)	Austria	Yes	Primary and Lower secondary	340 (teachers; 188 female, 33 male; in-service; student-level characteristics not reported)	Teamwork (Holzinger, 2011); Holzinger et al. (2011) positive, respectful school climate; democratic leadership style of the school, general structure at school level; heterogeneity of class performance; reduction of administrative work	Univariate and multivariate analysis. ANOVA and correlations	Differences emerged in educational practices between secondary and primary schools. Specialized teachers, especially in secondary schools, showed higher ratings in strategies such as paired work and weekly organization. Both groups emphasized the importance of a positive school environment, democratic leadership, and teamwork, while differences in student performance were less significant but still noteworthy. Secondary schools obtained lower scores in teamwork’
Gibson (2016)	Australia	Yes	Upper secondary	65 (49 teachers, 10 teacher aides, 6 dual-role; staff supporting students with disabilities; age, gender and SES not reported)	Questionnaire about inclusion, curriculum, classroom management, and student support (Connell, 2007).	ANOVA	There were no significant differences in including assistants in the school community, but disparities arose in involvement in extracurricular activities. Teachers and assistants agreed on many curriculum aspects, while the mixed group involved assistants more in defining curriculum goals. Classroom management perceptions were similar across

							groups. Teachers voiced concerns about student dependence on assistants, emphasizing the need for negotiated standards and proactive support. Different perspectives on assistant involvement in the curriculum were evident, but there was broader agreement on classroom management. All groups acknowledged the importance of assistants supporting not just their assigned students but also others in need.
Stefanidis (2018)	New York (USA)	Yes	Kindergarten, Primary, Lower secondary and upper secondary	147 (co-teachers; includes general and special education teachers; age and experience considered; student-level characteristics not reported)	Co-teacher Questionnaire (CTQ) developed by King-Sears et al. (2014) and demographic characteristics	Descriptive statistics and hierarchical regression analysis	They found positive correlations between perceived co-teaching benefits, effective co-planning, parity among co-teachers, and relationship quality. However, there was an unexpected negative correlation between co-teaching benefits and co-teachers' age. Hierarchical regression showed co-teachers' age, co-planning, and relationship quality accounted for variance in perceived benefits. Younger co-teachers perceived greater advantages. While supporting some hypotheses, the role of co-teachers' age in perceptions of co-teaching benefits remained less clear.

Level four of QU!S-S							
Study: 1st author	Country	Special schools in the country	Age / grade	Sample	Measures	Data analysis	Main findings
Blatchford (2018)	UK	Yes	Primary and lower secondary	97 (48 SEN aged 9-10; 49 SEN aged 13-14; comparison groups included; gender, SES not reported)	Observation with rationale	Two separate observers and reorganization of material into categories	It emerged that students with SEN in smaller classes tend to have less academic performance. There are no differences in interactions with teachers at age 9, but at age 14 SEN students have more interactions with the teacher and less with peers, than peers without SEN.
Yang (2022)	China	Yes	Lower secondary and Upper secondary	118 (students with SEN; age 11-20, M = 14.98; 77 male, 34 female; SES via government assistance; includes dyslexia, ADHD, multiple needs)	Peer support (Zimet et al., 1988) School Support (Bear et al., 2011) Self-Determination (Walman et al., 1994) School engagement scale (Fredricks et al., 2005)	Path Analysis	It finds a positive link between school support and personal determination, which in turn influences school engagement for SEN. However, peer support doesn't seem to significantly affect students with SEN. Assessments of different nurseries highlight that while the interiors are suitable for activities, dated buildings, inappropriate furniture, and lack of specialized equipment like ramps hinder educational inclusion. Statistical analysis shows that group size and structural conditions significantly affect the quality of education in these nurseries.

Sannen (2021)	Belgium	Yes	Primary	441 (teachers; 90% female; age 21-60; SES considered at school level; student-level characteristics not reported)	Teacher collaboration (Sannen et al., 2019); support network (Borgatti et al., 2013); School external support (Leonardi & Contractor, 2018).	Multi-level analysis	Individual-level factors had the most impact on diversity beliefs, but school context was significant. A denser support network at school positively correlated with diversity beliefs, while larger schools showed less positive attitudes toward diversity. Dense school networks were associated with more differentiated instruction, while centralized support networks linked to less differentiation. Gender, support extent, and school location also influenced differentiated instruction. Understanding these dynamics is crucial for developing effective, diversity-sensitive educational strategies within schools.
Trifonova (2023)	Bulgaria	Yes	Kindergarten	40 kindergartens (preschool settings; child-level demographics not reported)	ECERS-3 (Harms et al., 2014)	Descriptive statistics, Observation with open coding process	The school context had an influence on the level of education achieved by children.

Level 5 of QU!S-S							
Study: 1st author	Country	Special schools in the country	Age / grade	Sample	Measures	Data analysis	Main findings
Coster (2013)	USA	Yes	Kindergarten, Primary, Lower secondary and upper secondary	576 caregivers (parents of children aged 5-17 with and without disabilities; detailed SES and demographics not fully reported)	PEM-CY (Bedell et al. 2011; Coster et al. 2011)	T-test and Chi-square	Students with disabilities participated less in school life and this, at times, was due to the barriers of the environment.
Zanobini (2018)	Italy	No	Kindergarten, Primary and Lower secondary	285 parents; 581 students (children with disabilities; type and severity considered; SES and immigrant background not reported)	Inclusion INDEX (Di Nuovo, 2012) Emotions/Regulation subscale (Roid and Miller, 1997) Severity and type of disability		There is no specific influence of the type of disability on parental satisfaction, but the severity of the disability affects parents' perception of acceptance and support from classmates and their families. Parental satisfaction is linked to maintaining learning outcomes, and a reduced perception of the gap between the performance of the disabled child and their peers leads to greater parental satisfaction, especially concerning the integration of educational and rehabilitative activities. Parental satisfaction seems to depend more on the emotional outcomes than the cognitive outcomes of children with disabilities, suggesting a more significant role of emotional perception in parental satisfaction than academic aspects or autonomy.

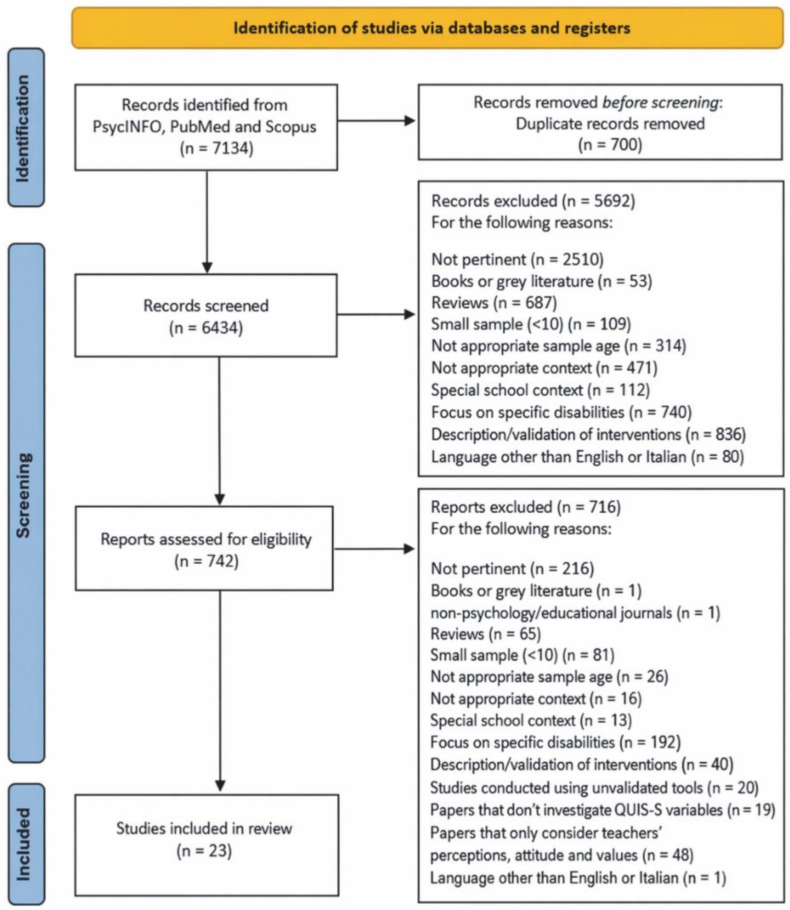
Scientific articles that consider multiple levels of QU!S-S							
Levels two and four							
Study: 1st author	Country	Special schools in the country	Age / grade	Sample	Measures	Data analysis	Main findings
Wang (2021)	China	Yes	Primary	1676 teachers (85.4% female; primary and junior high; teaching experience reported; student-level characteristics not reported)	The multidimensional School Inclusion Climate Scale (Schaefer, 2010)	Correlation, SEM (Structural equation modelling)	The support of the principal has had a significant effect on the professional skills of teachers; the role of mediation at school level of inclusive practices and teachers on the relationship between the main support and that of professional skills teachers has also been significant. These findings suggest the direct and indirect roles of the principal in promoting inclusive professional skills of teachers. The results also highlight the significant effects of the school environment on inclusive education.
Levels two and five							
Study: 1st author	Country	Special schools in the country	Age / grade	Sample	Measures	Data analysis	Main findings
Sucuoğlu (2017)	Turkey	Yes	Kindergarten	147 teachers (preschool teachers working with children with developmental	Teacher Strategies Questionnaire	Descriptive statistics and Correlation.	The study evaluated the classroom management strategies of preschool teachers using the TSQ-T, confirming

Study: 1st author	Country	Special schools in the country	Age / grade	Sample	Measures	Data analysis	Main findings
				disabilities; teacher demographics not reported)	(TSQ; Webster-Stratton et al., 2001)		its validity. Turkish teachers use positive strategies similar to their American and Irish counterparts, but also some negative strategies. The results show that teachers have high confidence in managing behavioral problems and that neither age nor experience influences their strategies. Pre-service courses in special education and inclusion did not significantly improve management strategies. Teachers need more support to use effective proactive strategies in inclusive classrooms. Classroom management courses should include practical examples and proactive strategies, not just theories.
Level three and five							
Ladenstein (2022)	Bulgaria, Austria, Portugal Slovakia	Yes; Portugal No.	Primary and lower secondary	70 (teachers, assistants and parents; multi-country sample; qualitative subsample n = 9; age, gender, SES not reported)	Collaboration between assistants and teachers' (Kauffeld, 2004); Questionnaire on Teamwork' (Kauffeld 2004);	Descriptive statistics and Spearman correlations, for qualitative data Kuckartz's qualitative	They found frequent interaction between assistants and teachers but no significant correlation between interaction frequency and perceived collaboration quality. Challenges included time constraints, role uncertainty,

					focus group with explicit rational	content analysis	and difficulties establishing professional relationships with parents. Implementing informative tools showed slight positive changes in collaboration perception but not linked to initial collaboration quality. Clarity on roles and targeted training for inclusive skills are vital for improving collaboration. Both teachers and assistants stress the importance of clear roles and training. Raising teachers' awareness during training and professional development is crucial for optimizing collaboration and providing effective student support.
Levels four and five							
Study: 1st author	Country	Special schools in the country	Age / grade	Sample	Measures	Data analysis	Main findings
McCoy (2019)	Ireland	Yes	Primary and lower secondary	7423 (students and families; includes age, gender, SES and family variables; multiple SEN categories)	Descriptive Informations; Family informations; Family dynamics (Laible and Thompson 2000); child-reported Piers-Harris Self-Concept Scale	Descriptive statistics and multivariate logistic regression model.	This paper emphasizes the value of helping students continue their secondary education into their second year, encouraging good teacher-student interactions, and offering extra assistance to children who performed less well in elementary school. For students with impairments, the

					(Piers, Harris, and Herzberg 2002); Transition Difficulties Scale (Smyth, 2016); Child engagement in school (McCoy and Banks, 2012); Interaction with teachers (Hannan et al., 1996)		research underscores a need for more effective transition supports, particularly during the pre-transition period.
Levels one, two, three and four							
Study: 1st author	Country	Special schools in the country	Age / grade	Sample	Measures	Data analysis	Main findings
Žic Ralić (2020)	Croatia and Poland	Yes	Lower secondary	312 teachers (173 Poland, 139 Croatia; variation in experience; student-level characteristics not reported)	The Scale on Quality Indicators for Inclusion – for Teachers (Ivančić, 2012)	Descriptive statistics ANOVA	Teachers generally provided favourable evaluations of the quality of inclusion. The subscale Support monitoring and assessment received the highest scores from respondents from both nations, whereas the subscales Resources for inclusive education by the Croatian sample and Teaching assistant support by Polish participants received the lowest ratings. With the exception of teaching assistant support, Polish teachers rated higher than Croatian instructors on every subscale.

Figure 1 - PRISMA 2020 flow diagram



3. Results

3.1 Level 1: individual needs

This level includes articles addressing the following research questions:
1. Are specific special educational needs (SEN) included in individual support?
2. Have all students with special educational needs a diagnostic report as a basis for individual support?
3. Have students with special educational needs individualised education programmes (IEPs)?
4. Are the initial level and learning progress of all students regularly reviewed?
5. Can all students take advantage of individual support, if necessary?

Level 1 of the QU!S-S model focuses on the detection of students' individual needs. A total of four articles were included in this level.

The main goal of Ge and Zhang's (2019) study was to define the school outcomes of children with and without disabilities. The results outlined the importance of measuring not only the cognitive gains but also emotional and motivational variables as they represent important elements of children's school well-being and the quality of life. Nevertheless, some methodological issues can be pointed out: school attachment and well-being are very complex constructs that stem from multidimensional models (Dias et al., 2020); the measures chosen by the authors do not seem to fully explore the many dimensions of the variables taken into account.

Rakap and colleagues (2019) focused on a tool called the IEP Component Checklist (IEPCC) used to evaluate Individualized Education Program (IEP) quality. The IEP (Individualized Education Program) is a school document developed jointly by teachers, professionals and families which outlines learning goals, plans interventions, and assesses students' progress. Results outlined that the reviewed IEPs, on average, included only one-third of the legal requirements, and the components recommended by the literature were rarely included

The goal of Shapiro's (2023) study was to analyse the effect of being young for grade on receiving special education services in pre-school. The main finding of this study was that the youngest children in a class were more likely to be enrolled in special education. This effect was consistent through time; furthermore, the age effect was more concentrated in kindergarten classrooms with a wide age range. The study suggested that age is a demographic variable that can heavily influence the decision to provide special individual support.

Yngve and colleagues' study (2019) was part of a larger research project aimed at implementing assistive technology in the school environment. The specific goals of the study were to identify variables linked to a high level of need for support in school activities among students with SEN and verify whether the school system has managed to meet these needs or not. The data outlined roughly 50% of the students perceived that they did not receive support in school activities related to academic performance, such as remembering things, writing, and doing homework.

3.2 Level 2: Inclusive teaching

This level includes articles addressing the following research questions:

1. Does inclusive teaching take into account the individual learning styles of all students?
2. Does instruction take appropriate account of the different learning requirements and ability levels of all students?
3. Are lessons clear and comprehensible for all students?
4. Does inclusive teaching offer all students a well-organised learning and development space?
5. Does inclusive teaching endeavour to create a climate conducive to learning for all?

This level assesses the practices that teachers address to the whole class to meet all students' needs. Five articles have been selected for level 2.

Jackson and colleagues (2022) analysed a broad range of contextual variables to identify strengths and weaknesses of different categories of school placements for students with SEN, ranging from a completely inclusive environment to a special setting placement. The findings suggested that more inclusive placements provided more access to peer interaction, academic content, learning materials, collaborative teaching, and student-centred instruction than restrictive placements. Overall, the authors argued that restrictive environments compromised students' learning opportunities. Nevertheless, the study also pointed out areas of weakness in the less restrictive placements: teachers' training may be insufficient to manage children's complex special needs.

Feldman and colleagues (2016) analysed the interaction of students with and without disabilities to evaluate the social integration of students with SEN in the classroom. Feldman's study outlined that mere enrolment in a general education classroom was not sufficient to ensure social inclusion in the group of peers. Further arrangements must be deployed to foster peer interactions, peer learning and actual inclusive teaching.

Cameron (2014) carried out an observational study aimed at examining the interactions between school professionals and students in relation to students' level of ability and activity arrangements. This research underlined the relationship between a traditional school context, in which the teacher deals with the entire class group, while the support teacher has a 1:1 relationship with children with SEN, and a traditional problem, represented by the sense of fatigue of teachers in the management of the trade-off between the individual needs of the students and the progress of the class.

Coelho and colleagues' (2019) analysed the interaction between preschool process quality, activity setting in terms of children's listening and verbal behaviours, schedule, proximity to and interaction state, activity and tasks demands, materials and focus of activities, and level of involvement and setting and the engagement of children with different levels of abilities (children eligible for special education services, at-risk children, typically developing). Results outlined the complex relations between teacher support, class settings and activities and children's level of ability. The study suggested that an engaging, inclusive classroom stems from a delicate balance between the previous factors.

Vlachou and Fyssa's (2016) study analysed the relation between observed inclusive practice and structural elements of Greek preschool programmes (i.e. group size, number of children with disabilities and model of special educational provision) and teachers' demographic characteristics of both regular and special education teachers (i.e. years of teaching experience and professional training in special education). The observational findings highlighted a low quality of inclusive teaching practice, frequently implementing practices that only partially promoted participation for children with disabilities in academic and social classroom activities.

3.3 Level 3: collaboration among teachers

This level includes articles addressing the following research questions:

1. Are lessons taught as a team?
2. Are lessons planned and conducted together?
3. Are teaching and educational activities subject to shared reflection?
4. Is pedagogical work organized to be learned as rapidly and effectively as possible?
5. Does cooperation extend beyond the boundaries of the classroom?

Level 3 focuses on collaboration among teachers; three articles were included in this level.

Schwab and colleagues (2015) reported a detailed analysis of educational practices in primary and secondary schools and general and support teachers' experiences. Specifically, support teachers showed higher ratings in strategies such as paired work and weekly organization, especially in secondary schools. Both groups of teachers emphasized the importance of a positive school environment, democratic leadership, and teamwork.

Furthermore, results highlighted that school level significantly influenced teamwork, with lower scores in secondary schools.

Stefanidis and colleagues (2018) followed Bandura's social learning theory to explore the contextual factors that impact the perceived benefits of co-teaching. Perceived benefits of co-teaching showed a positive correlation with co-planning effectiveness, parity among co-teachers, and the quality of the co-teachers' relationship. However, a negative correlation between co-teaching benefits and co-teachers' age was noted.

Gibson and colleagues (2016) investigated the role of teachers' aides (TAs) in schools. Three groups were involved in the study: TAs, teachers and T/TAs (participants worked as both teacher and TA)

Four main themes were investigated: inclusion in the school community, curriculum, classroom management, and student support.

Findings highlighted that the three groups agreed on the role of the TA about inclusion, classroom management, and student support. On the other hand, the T/TA team appeared to be less involved in curriculum development, often lacking access to the programs on which students' curricula were based.

3.4 Level 4 School setting and life

This level encompassed articles that addressed the following research questions:
1. Do the fundamental principles of the school create opportunities for reflecting on the possibilities of an inclusive school?
2. Is school management actively involved in developing inclusive school policies?
3. Is it clear that all students can fully participate in all extracurricular activities?
4. Has the school anchored the principal of inclusion in its school concept?
5. Is the theme of inclusion supported by the faculty?

Level 4 focuses on school setting and life. Four articles about this topic were identified.

Blatchford and Webster's (2018) reported a systematic observation study that involved a sample of children with SEND at Year 5 (9-10 years) and a sample of children with SEND at Year 9 (13-14 years) compared to two samples of children with typical development. Findings revealed disparities in the inclusion of students with SEND, often placed in groups with lower academic performance than their peers. Concerning class composition, at Year 5 students with SEND tended to be placed in larger classes, instead at Year 9 students with SEND were placed in smaller classes. Furthermore, an investigation into the impact of class sizes on the performance of students with SEND highlighted a marked decrease in performance when placed in smaller classes with low-achieving classmates. Regarding interactions with teachers, at Year 5, no significant differences emerged between students with and without SEND, but at Year 9, an increase in interactions with teachers and a decrease in interactions with peers for students with SEND were evident.

Yang et al. (2022) aimed at examining the influence of school support (reflecting the values, climate, and interpersonal relationships of the school) and peer support on the determination and school engagement of students with SEN. Findings highlighted a positive correlation between school support and personal determination, which is in turn linked to school engagement. In this context, personal determination acted as a mediator between school support and student engagement. However, peer support did not emerge as a significant predictor for students with SEN. Concerning the environment, most of nurseries reported a lack of specialized equipment, suggesting a suboptimal environment for educational inclusion. In particular, the lack of private spaces affected children's ability to take breaks during group activities.

Sannen and colleagues (2021) focused on the relationship between teacher collaboration, teachers' beliefs about school inclusion, and differentiated instruction.

Findings highlighted that high density school network opposed to a centralized one was associated with more differentiated instruction.

Trifonova and colleagues (2023) focused on the structural and process characteristics of the education quality in kindergarten. Findings revealed high scores related to the care practices and the positive social interactions. On the other hand, lowest scores about the common instructional approach were reported due to the lack of adequate learning opportunities tailored to the children's individual needs. Furthermore, in terms of practical implications, this study highlighted that more flexibility in instruction, incorporating free-choice activities and play in small groups, is needed to enhance the quality of early childhood education.

3.5 Level 5 Relations with the territory

Within this level, there are articles addressing the following research questions:

1. Does the school collaborate with all stakeholders involved in the pedagogical process to provide each student with the best possible learning conditions?
2. Is the school committed to developing a network to offer all students the best possible conditions for living and developing within the community?
3. Is collaboration with parents considered a prerequisite for continuous progress in inclusive schooling?
4. Are local institutions involved in the development of inclusive schooling?
5. Can the school receive professional advice and support?

Level 5 focuses on the interactions between the school actors and the territory. Two papers have been identified for this level.

Coster and colleagues (2013) investigated whether features of the school environment were perceived to help students with and without disabilities (5-17 years old). Findings revealed that younger students with disabilities are less involved in school activities and in social extracurricular interactions, compared to their peers without disabilities. Parents of these students also reported lower levels of involvement and expressed a greater desire for change in their children's participation. This pattern was also replicated among older students with disabilities, who showed lower involvement in extracurricular activities.

Zanobini and colleagues (2018) examined the satisfaction of parents of children with disabilities and its correlations with various factors, using indices, questionnaires and demographic data: Inclusion INDEX (Di Nuovo, 2012), Emotions/Regulation subscale (Roid & Miller, 1997) and Severity and type of disability. Findings highlighted that the severity of the disability influenced parents' perceptions of acceptance and support from classmates and their families.

Parental satisfaction was partially linked to the maintenance of learning outcomes but it did not show significant associations with their improvement or generalization. Furthermore, the autonomy assessed by support teachers did not correlate with parental satisfaction, except for autonomy in interpersonal relationships, associated with satisfaction regarding acceptance by classmates and their families. Moreover, a more significant role of emotional perception in parental satisfaction than in academic aspects or autonomy was found.

3.6 Multiple levels of the QU!S-S model

In this systematic review, we found only a few studies that have simultaneously met the criteria of multiple levels of the QU!S-S model, following a multidimensional perspective. We reported below the selected studies.

Wang and Zhang's (2021) study was selected for level 2 and 4. This study considered the role of principal support in inclusive teacher education. They found that principal support was positively correlated with inclusive practices, teacher agency, and teachers' professional skills. Furthermore, principal support and teacher agency had a crucial role in the development of teachers' professional skills.

Sucuoğlu et al.'s (2017) study was selected for levels 2 and 5. This study examined the use of strategies by teachers in kindergarten. They reported a high confidence among teachers in managing problematic behaviours, as well as similar frequency and utility in positive strategies. Furthermore, inclusive teachers with children with disabilities in their classes perceived negative strategies as less useful compared to their colleagues' teaching classes without children with disabilities. Findings highlighted common strategies like praising positive behaviours and using group incentives. However, differences were observed in the less frequently used strategies and in how teachers perceived their utility, depending on whether they had children with disabilities in their classes. Moreover, findings highlighted that the teachers who had previous knowledge on inclusion due to specific training used more positive approaches to the parents compared to teachers without a specific knowledge about this topic.

Ladenstein and colleagues' (2022) study was selected for levels 3 and 5. The research focused on the collaboration between learning assistants, teachers, and parents. Interviews highlighted uncertainty regarding assistants' responsibilities, generating difficulties for both teachers and the assistants themselves. In the assistant-teacher relationship, a high frequency of interaction emerged. Interviews highlighted uncertainty regarding assistants' responsibilities, mainly due to issues raised by parents, generating difficulties for both teachers and the assistants themselves.

McCoy and colleagues' (2019) study was selected for levels 4 and 5. This study examined how the family context and teacher relationships may play a role in the school transition through the use of questionnaires and household demographic information. Girls, students with lower academic performance, and those from vulnerable family backgrounds tended to have negative transition experiences. Family conflict and positive teacher relationships influenced the transition experience. While academic performance aided in predicting challenges in adapting to secondary school, factors such as family situation and social dynamics played a significant role in the transition journey of students with disabilities.

Žic Ralić et al. (2020) study was selected for levels 1-2-3-4. This study focused on evaluating the quality of inclusion in schools by Polish and Croatian teachers. Both groups of teachers gave positive feedback on the support provided for monitoring and assessment, noting their appreciation for how student knowledge is evaluated during lessons and the assistance offered during tests. They especially valued the collaboration with parents in monitoring student progress and highlighted the level of counselling offered to both students and parents regarding future education. However, there are some differences regarding resources for inclusive education and support from educational assistants. Croatian teachers rated lower in high-quality school equipment, the number of school professionals, and collaboration with parents compared to their Polish counterparts. Similarly, Polish teachers expressed lower ratings for educational assistants' support compared to Croatian teachers.

4. Discussion

The main aim of this systematic review was to analyze recent research concerning the quality of school inclusion, considering all pupils, especially those with disabilities, from a multidimensional perspective. To accomplish this aim, we conducted a systematic review starting from the QU!S-S model.

The choice of this model allowed us to take into consideration articles centered on concrete quality indicators, potentially capable of describing what really happens in relation to the individual actors involved in the process, the school environment, external services and the entire community, also taking into account, whenever available, key descriptive characteristics of participants reported in the studies (e.g., age/grade, gender, socioeconomic status, immigrant background, and type of disability), which were systematically extracted and included in Table 1.

In fact, studies that analyzed the presence of effective responses to individual needs, the tendency to adapt teaching strategies to different situations, cooperation inside and outside the school, and the consistent presence of inclusive policies, although these characteristics were not consistently reported across all studies, can shed light on the effective implementation of principles already present in international declarations and underlying the achievement of a satisfactory quality of life even for the most vulnerable students.

4.1 How does the school take into account the needs of all students?

We tried to respond to this question by analyzing a series of papers consistently with the first level of the QU!S-S model that focuses on individual needs.

Some studies emphasized that, in the school context, children's cognitive abilities were more frequently explored and evaluated than complex constructs such as school attachment and well-being, which arise from multidimensional models (e.g., Dias et al., 2020). However, it is essential to measure children’s cognitive abilities alongside their emotional, motivational, and relational components, as these elements are crucial for assessing school well-being and QoL (Ge & Zhang, 2019).

This means that schools, in order to implement inclusive practices that can support students’ well-being, should consider students’ changes in a longitudinal perspective, not only in terms of learning progress but also by monitoring with specific tools changes in the emotional, motivational and relational domains. In this way, schools can monitor changes related to the whole functioning profile of the students (e.g., WHO, 2007).

To do this, it’s fundamental using school documentation appropriately, especially for children with SEN, referring to the individualised education programmes (IEPs); therefore, the employment of an IEP evaluation tool with the aim at investigating IEPs quality, such as the IEPCC (Rakap et al., 2019), could be considered a valuable practice.

Moreover, a proper analysis of students’ needs is an essential factor for their school well-being. To address this problem, the literature highlighted the importance of employing appropriate tools aimed at detecting students’ needs. Yngve and colleagues (2019), highlighted the importance of taking into account also the students’ perception; this is in line with the literature that suggests to consider the combination of different points of view in the school community, thus mitigating individual bias, also considering that students’ and teachers’ perceptions can focus on different aspects (Panesi et al., 2020). These good practices of evaluation could represent a key element for monitoring students' wellbeing. In this perspective, it is also important to consider that the studies included in this level referred to highly diverse populations, ranging from primary school children to upper secondary students, and including different profiles of special educational needs (e.g., intellectual disabilities, autism spectrum conditions, neurodevelopmental disorders). However, these characteristics were not always systematically reported, limiting the possibility of understanding how individual differences may interact with the quality of inclusive practices.

4.2 Which are the factors that make teaching inclusive?

We tried to respond to this question by analyzing a series of papers consistently with the second level of the QU!S-S model that focuses on inclusive teaching.

Overall, the literature in this field highlighted that the presence of students with SEN in a general education classroom is a necessary but not sufficient condition to benefit from inclusive teaching (Feldman et al., 2016).

Good practices highlighted by literature to make teaching inclusive are reported below.

Concerning the class setting, students with SEN in the classroom space should be taken into consideration to ensure an inclusive environment. Specifically, Jackson and colleagues (2022) highlighted that less restrictive placements provide more access to peer interaction, academic content, learning materials, collaborative teaching, and student-centred instruction than restrictive placements.

Considering the relationships between general and support teachers, Cameron (2014) argued that they should work in synergy to address the needs of the whole group of students, including students with SEN.

Referring to the class activities, teachers should choose carefully class activities and arrangements in order to foster all children's engagement and participation (Vlachou & Fyssa, 2016).

Coelho and colleagues (2019) highlighted that an engaging inclusive classroom emerges from a delicate balance among different complex factors, such as teacher support, class settings, activities and children's level of ability.

4.3.1 How do relationships among various school actors promote the quality of school inclusion?

This systematic review also reported the key elements to make collaborative and inclusive practices among teachers.

For example, Stefanidis and colleagues (2018) highlighted the importance of co-teaching practices that are linked to co-planning effectiveness, parity among co-teachers, and the quality of the co-teachers' relationship.

This systematic review also highlighted differences among compulsory education levels concerning the collaborative practices (i.e., planning and teaching reflection) among teachers that impact on students' inclusion. Specifically, Schwab and colleagues (2015) found that school level significantly impacts on teamwork, with lower scores in secondary schools.

4.3.2 How do school concept and life promote school inclusion?

The literature in this field emphasized some inclusive policies that the schools could take into account to support well-being of all students, especially those with special needs.

Concerning the class environment, students with special needs should not be placed in smaller classes with low-achieving classmates (Blatchford & Webster, 2018). In fact, Blatchford and Webster (2018) found that students with special needs are often placed in lower-performing groups and this condition negatively affects their academic outcomes.

About the school network, Yang and colleagues (2022) highlighted the importance of school support in fostering engagement for students with special needs. Always referring to the school network, Sannen and colleagues (2021) revealed that robust support networks at the school level could enhance teachers' attitudes toward diversity and differentiated instruction, and this aspect could have a good influence on inclusion of students with special needs.

In terms of good practices, Trifonova and colleagues (2023) argued that in kindergartens a more flexible instruction is required, with free-choice activities and play in small groups.

4.3.3 How do external support and communal networking impact on the quality of school inclusion?

To answer this question, consideration has been given to the literature that referred to the relationships between school community and external actors, especially focused on relationships with parents of children with special needs.

In examining the relationships between the school community and families of children with special needs, Coster et al. (2013) and Zanobini et al. (2018) provided insights into the challenges faced by students with disabilities and their families. They emphasized the ongoing barriers to school participation and social interactions for these students, which were worsened by perceived shortages of resources. They also highlighted that parental satisfaction, emotional outcomes and the perceived inclusion of educational and rehabilitative efforts are associated, rather than purely academic achievements or autonomy assessments.

These findings emphasized the ongoing need to have a support network that implements inclusive practices, creating a “bridge” between the school context and extra-curricular activities, also involving families, in order to promote the full inclusion of students with special needs.

4.4 Some limitations and further research

The conclusions of this systematic review should be considered together with its limitations. Firstly, although we have excluded all studies conducted in special education classes, there are still special schools in some countries where the samples come from. Specifically, this could be seen as a crucial aspect in light of the different laws and regulations on the subject of inclusion in different countries, which could significantly influence teachers’ perceptions about the quality of school inclusion. A further limitation concerns the descriptive features of the samples included in the reviewed studies. Although additional information on participants (e.g., age/grade, gender, socioeconomic status, immigrant background, and type of disability) was included in Table 1 whenever available, many studies did not provide a complete or systematic description of these variables. This limits the possibility of comparing findings across studies and of identifying how inclusive practices may differentially affect students with different profiles. Future research should therefore ensure a more detailed and consistent reporting of participant characteristics.

5. Conclusion

This systematic review of recent psychological literature on the quality of school inclusion has shed light on the fundamental aspects, inside and outside of school, to promote the quality of school inclusion of students with special needs. Thanks to this, it is possible to indicate some promising directions for improving the inclusive characteristics of school environments.

First of all, the importance of focusing attention on all facets of students’ needs emerged: careful monitoring of the educational, emotional and relational objectives present in the IEP is a necessary condition to respond to these needs and enhance students’ inclusion.

As expected, the role of the teacher emerged as crucial not only in implementing instructional strategies to adapt academic content to all students, but also in organizing the school environment to make instructional materials accessible and encourage peer interaction. However, teachers alone cannot ensure the full achievement of quality standards: to implement teachers' action, support is needed in terms of professional training, availability of resources and school policies.

In this direction, the analysed literature highlights the importance of co-teaching: an equal collaboration between teachers with different roles favours the possibility of implementing diversified strategies, enhancing both learning and the sense of belonging to the school community.

This review also highlights gaps in the literature that should be filled to implement good practices to make schools more inclusive. Indeed, it is possible to see that the scientific literature does not fully answer all questions at every level of QU!S-S. This means that there are indicators of school inclusion which have not been considered in the scientific literature. The level of QU!S-S that has been less analysed is the impact of the external community on the quality of school inclusion. The lack of a macro-level of analysis suggests that the way to involve the whole community in promoting inclusive and equitable education is still largely open.

Finally, despite the multidimensional construction of school inclusion, research often does not provide data on the interaction of the various levels.

Practical implications

This systematic review suggests some practical implications that should be considered in order to create increasingly inclusive school environments.

Firstly, it is desirable that the school documents give clear and precise indications of the individual path of the students. It also emerged that cooperation between teachers is a key to ensuring an inclusive environment, especially cooperation between discipline and support teachers. Another important issue concerns the school environment, which must promote inclusiveness by ensuring the right spaces and adequate equipment.

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I nodi cruciali del lavoro psicologico tra teorie e prassi: l'analisi della domanda come dispositivo trasformativo

The crucial knots of psychological practice between theory and action: Demand analysis as a transformative device

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Abstract

This paper presents a case study on the analysis of psychological demand conducted within a training and support intervention requested by a regional office of the Italian Penitentiary Administration for its personnel. The six-month project involved six managerial figures and eight operators through individual semi-structured interviews and a focus group. Text analysis, carried out using the T-LAB software and based on the collusive processes model, identified six thematic clusters related to organizational issues (fragmentation, inconsistency) and relational resources (peer support). The intervention activated a space for intersubjective reflection and enabled a reformulation of the initial request as an opportunity for shared meaning-making, fostering the development of a change-oriented planning process.

Key words: demand analysis, action research, organizational well-being, relational dynamics, correctional psychology

Riassunto

Il contributo presenta un caso di analisi della domanda psicologica condotta nell'ambito di un intervento formativo e di supporto richiesto da un ufficio regionale dell'Amministrazione Penitenziaria per il proprio personale. Il progetto, della durata di sei mesi, ha coinvolto 6 figure dirigenziali e 8 operatori, mediante la conduzione di interviste semi-strutturate individuali e di un focus group. L'analisi dei testi, condotta mediante il software T-LAB e secondo il modello dei processi collusivi, ha prodotto sei cluster tematici relativi alle criticità organizzative (frammentazione, disomogeneità) e alle risorse relazionali (supporto tra pari). L'intervento ha attivato uno spazio di riflessione intersoggettiva e ha permesso di riformulare la richiesta iniziale come occasione di costruzione di senso condivisa, favorendo lo sviluppo di una progettualità orientata al cambiamento.

Parole chiave: analisi della domanda, ricerca-azione, benessere organizzativo, dinamiche relazionali, psicologia penitenziaria

Introduzione

Il Consiglio Nazionale dell'Ordine degli Psicologi (CNOP), nel documento *Atti tipici e riservati della professioni psicologica: la competenza del counseling* (20 Giugno 2020), così si esprime:

> «Per compiere un atto professionale responsabile, sicuro ed etico, è necessario che il professionista sia in grado di verificare a quale *domanda psicologica* corrisponde la *richiesta esplicita* del cliente, di valutare lo stato attuale e prospettico della situazione psicologica personale dell'utente (ovvero, effettuare una diagnosi psicologica, diversa dalla diagnosi psicopatologica, ma allo stesso modo tecnicamente specialistica), collegarla alle dinamiche relazionali e contestuali nelle quali è inserita, proporla in maniera scientificamente coerente e infine, valutarne gli esiti in modo appropriato, ed eventualmente individuare gli adattamenti necessari per garantire al meglio il benessere psicofisico dell'individuo».

Riconoscere quale domanda di psicologia è sottesa alla esplicita richiesta di un cliente è un'azione cruciale nel lavoro psicologico, la cui rilevanza è già storicamente sottolineata da diversi testi che possono essere riconosciuti fondamentali per la formazione dello psicologo. Tale azione ha il suo avvio nel valutare gli aspetti latenti – inconsapevoli (inconsci; Carli & Paniccia, 2003) – ed emotivamente connotati che accompagnano tutte le richieste rivolte alla professione psicologica. Si tratta, tuttavia, di una azione che sovente è data come "assunto di base" e, per questo, scarsamente costituisce oggetto di confronto entro la comunità scientifica.

Da questa riflessione prende avvio il presente contributo. Desideriamo, infatti, trattare alcune questioni fondamentali inerenti al tema dell'analisi della domanda, come indispensabile passo entro l'ambito della ricerca-azione. Non rientra negli obiettivi del presente lavoro una riflessione sui modi di pensare e praticare la ricerca e le azioni che da essa possono scaturire; numerosi, infatti, sono i modelli interpretativi e i significati simbolici attribuiti a questi costrutti (Scaratti et al., 2009).

Piuttosto, in questo contributo si intende promuovere un'attenzione orientata alla comprensione della situazione e delle relazioni che la caratterizzano, quindi ai nodi cruciali di paradigma e di metodo, che caratterizzano l'analisi della domanda/richiesta di intervento psicologico.

Il focus del contributo riguarda un'esperienza di ricerca finalizzata a esplorare le condizioni di praticabilità di un intervento, sia esso clinico, formativo o organizzativo. In particolare, verrà presentato un caso relativo a un intervento psicologico promosso in risposta a una richiesta formativa e di supporto proveniente da una pubblica amministrazione, impegnata nell'attuazione di cambiamenti organizzativi imposti per decreto.

In sintesi, si adotta una prospettiva di ricerca-azione orientata alla produzione di un cambiamento, a partire dalle conoscenze implicite e dalla condivisione di saperi: la ricerca che si trasformi in azione e un'azione che arricchisca la ricerca (Kagan et al., 2008) al fine di non far prevalere percorsi stereotipati su esplorazioni euristiche e ciò che viene portato alla attenzione psicologica come "crisi" costituisca occasione di sfida e rinnovamento, o, per utilizzare le parole di Carli e Paniccia, sia orientato «*al fine di uno sviluppo della persona, così come delle strutture organizzative*» (2003, p. 10). È infatti dalle situazioni di crisi che possono emergere con maggiore chiarezza gli "aspetti di verità" inerenti alle relazioni (tra persone, così come tra persone ed eventi o, ancora, tra persone e i loro contesti – macro e micro – di appartenenza) e alla loro qualità (Cigoli, 2006). In questa prospettiva, la domanda di intervento non è semplicemente un bisogno individuale, ma la manifestazione di una problematica della relazione individuo-contesto, che emerge in un determinato scenario organizzativo e sociale (Carli, 2020).

L'analisi della domanda non si limita quindi alla richiesta esplicita, ma si occupa della trasformazione della domanda implicita in un oggetto pensabile, favorendo un processo di riflessione che coinvolge tanto il contesto quanto il soggetto (Carli & Paniccia, 2003).

Intendiamo accompagnare questa riflessione con alcune evidenze empiriche, emerse nell'ambito di un progetto da noi condotto su richiesta del Provveditorato regionale per l'amministrazione penitenziaria. L'intervento, focalizzato sul tema del benessere organizzativo, è stato promosso come supporto alle recenti modifiche organizzative. Nel corso degli ultimi anni, infatti, la gestione del sistema penitenziario italiano è stata interessata da numerosi cambiamenti che hanno avuto ricadute importanti sul benessere degli operatori (Saita, 2018; Sorge et al., 2021). Tali cambiamenti sono stati guidati da direttive dell'Unione Europea, recepite a livello nazionale dal Dipartimento dell'Amministrazione Penitenziaria e trasmesse attraverso specifici decreti (ad esempio, 3693/6143 del 18/07/2022) che mirano a promuovere una revisione del piano organizzativo gestionale.

La letteratura ha ampiamente sottolineato come le trasformazioni entro i sistemi di lavoro, possano generare effetti psicologici significativi sul benessere e sulla salute dei lavoratori (Vakola & Petrou, 2018); allorché tali trasformazioni sono imposte dai vertici organizzativi, spesso non volute o non comprese da chi opera nella quotidianità in questi contesti, divengono elementi che suscitano sentimenti ambivalenti (Oreg & Sverdlik, 2011).

Questi processi di cambiamento richiedono un lavoro di decodifica della cultura organizzativa sottostante, che spesso opera come un sistema simbolico di significati condivisi, in grado di influenzare le rappresentazioni e le modalità di gestione della crisi (Carli & Paniccia, 2003). In tal senso, l'analisi della domanda assume un ruolo centrale nel decifrare queste dinamiche, non solo a livello individuale, ma come fenomeno inscritto nelle logiche organizzative e nei processi di attribuzione di senso (Venuleo, 2022).

Nell'Amministrazione Penitenziaria i cambiamenti trasmessi per decreto arrivano a chi svolge ruoli operativi passando attraverso coloro che occupano posizioni burocratico-amministrative, cioè coloro che fanno in modo che l'organizzazione sia corrispondente a quanto previsto dalla legge.

Entro questa prospettiva, esplorare ciò che viene rappresentato − anche in modo differente e sovente conflittuale − come problematico nelle diverse dimensioni del vivere organizzativo, diviene un obiettivo necessario per poter comprendere gli elementi meno consapevoli e maggiormente connotati emotivamente che caratterizzano il contesto da cui la richiesta di lavoro psicologico emerge.

Una particolare attenzione deve essere posta alle criticità e alle risorse percepite, affinché sia possibile esplorare anche quali modalità di comunicazione e stili di leadership vengano considerati garanzia di equilibrio tra i limiti e le risorse individuate. Infine, il modo in cui vengono identificate le opportunità di sviluppo professionale e la gestione del bilanciamento tra vita lavorativa e vita privata costituiscono elementi per una adeguata comprensione della relazione individuo-contesti di appartenenza; sono proprio questi ultimi, infatti, che generalmente «*assolvono esigenze primarie della persona*» (Carli & Paniccia, 2003, p. 12).

Solo ponendosi in questa prospettiva diviene possibile costruire ipotesi di lavoro (intervento o formazione) coerenti con le rappresentazioni dei problemi e condivisibili entro uno specifico contesto organizzativo (Kaneklin & Galuppo, 2009), così da poter pensare come intervenire nella relazione individuo-contesto.

Nell'orizzonte del modello a cui ci si riferisce nel presente lavoro, l'approccio teorico e operativo che sostiene il lavoro psicologico entro i differenti contesti può prendere avvio solo dall'analisi della domanda, o meglio della richiesta, cioè una formulazione del problema ad uno "stato grezzo" che richiede una lettura e una ri-definizione al fine di progettare gli obiettivi di un eventuale intervento psicologico (Gennari et al., 2015).

Presupposto è che l'analisi di una richiesta di lavoro psicologico costituisca di per sé un processo che necessita di uno spazio-tempo di trasformazione della richiesta in una domanda; quest'ultima non può essere considerata solo come domanda di aiuto nell'affrontare un problema, piuttosto come domanda di senso, cioè dello stare entro un contesto reale (ovvero uno specifico ambito, nel nostro caso un contesto professionale), e contemporaneamente in un contesto relazionale e culturale. Questo al fine di comprendere il *perché* della richiesta non solo in termini causali, ma anche finalistici (Gennari et al., 2022).

Nelle pagine che seguono proveremo a tracciare alcuni step di questo processo, cercando di delinearne le ragioni di ordine concettuale e contestuale.

Una richiesta di intervento psicologico entro una pubblica amministrazione

Lo studio che qui presentiamo è parte di un più ampio progetto della durata di circa sei mesi e articolatosi entro un ufficio territoriale regionale del Dipartimento della Amministrazione Penitenziaria, deputato a svolgere i compiti previsti dalla legge per la gestione, il controllo e il coordinamento delle attività nelle strutture penitenziarie all'interno della propria competenza geografica. Il progetto prende avvio a seguito di una richiesta di intervento formativo e di supporto, che potesse agevolare gli operatori nell'affrontare i cambiamenti organizzativi attuati in risposta ai decreti legislativi orientati ad uniformare le prassi sul territorio nazionale in coerenza alle direttive dell'Unione Europea.

Entro tale contesto ci è sembrato utile avanzare una proposta di lavoro finalizzata a trattare in primo luogo ciò che veniva avvertito e vissuto come problematico sia da parte dei dirigenti d'ufficio, sia da coloro che occupano i ruoli intermedi, considerando l'impatto dei cambiamenti organizzativi sulla loro vita lavorativa e personale.

Il modo con cui si interpreta un'esperienza costituisce una sola tra molteplici strutture di intelligibilità utili a descriverla (Gergen, 1985), tuttavia la forma data ad un problema influenza anche il tipo di risposta data al problema medesimo.

Quindi analizzare il problema al fine di poter comprendere i significati emozionali connessi a tali eventi costituisce azione preliminare e indispensabile ad individuare le condizioni strutturali che rendono possibile l'organizzazione di un lavoro psicologico, non necessariamente corrispondente all'intervento organizzativo inizialmente chiesto, e piuttosto orientato a «sostituire l'agito emozionale con il pensiero emozionato sulle emozioni» (Carli, 2016, p. 6) che promuova la ridefinizione di obiettivi effettivamente perseguibili in funzione di uno sviluppo.

Metodologia

Per rispondere all'obiettivo di analizzare la richiesta formulata dall'Ente, sono stati adottati due strumenti metodologici: l'intervista semi-strutturata e il focus group. Prima dell'avvio delle attività, tutti i partecipanti hanno letto e sottoscritto il consenso informato, che includeva anche l'autorizzazione alle registrazioni audio, effettuate nel pieno rispetto delle normative vigenti in materia di privacy e garantendo l'anonimato dei trascritti.

Lo studio è stato approvato dalla Commissione Etica per la Ricerca in Psicologia (CERPS) dell'Università Cattolica del Sacro Cuore di Milano (n. protocollo: 175/24).

Alle figure dirigenziali dell'Ente (n = 6, al momento dell'avvio dei lavori) sono state somministrate interviste semi-strutturate individuali, scelte come strumento di rilevazione al fine di ottenere approfondimenti qualitativi su tematiche specifiche individuate in base alla letteratura. In particolare, nel nostro caso, l'indagine ha mirato ad esplorare le dimensioni del benessere organizzativo all'interno del contesto oggetto di studio. La traccia delle interviste comprendeva domande aperte articolate nelle seguenti aree tematiche: percezione del clima organizzativo, qualità delle relazioni interpersonali tra colleghi, efficacia della comunicazione interna e grado di coinvolgimento percepito, gestione delle risorse e qualità della leadership, opportunità di crescita e sviluppo di carriera, equilibrio tra vita lavorativa e privata, e attenzione dell'amministrazione alla diversità e all'inclusione.

In linea con quanto proposto dalla letteratura (Rubat Du Mérac, 2022), è stata inoltre avanzata la proposta di partecipare ad un focus group aperto a tutti i dipendenti dell'Ufficio dell'Amministrazione in oggetto (n = 50), allo scopo di coinvolgerli attivamente nel processo di analisi dei bisogni. Sulla base delle adesioni ricevute, è stato condotto un incontro unico della durata di due ore. È opportuno sottolineare che la partecipazione su base volontaria potrebbe aver comportato un bias di auto-selezione del campione. Tuttavia, la natura esplorativa dello studio e i suoi obiettivi – focalizzati sulla decodifica dei significati simbolico-relazionali più che sulla rappresentatività statistica – non richiedevano una composizione campionaria esaustiva, bensì l'attivazione di uno spazio riflessivo e dialogico.

Durante l'incontro, dopo una breve introduzione agli obiettivi e alla metogologia, ai partecipanti è stato chiesto di selezionare una o più fotografie da un set predisposto, da utilizzare come stimolo per avviare la discussione di gruppo e per rappresentare simbolicamente il proprio vissuto professionale. Di fatti, l'utilizzo della fotografia, si configura come un dispositivo capace di attivare processi narrativi e riflessivi, rendendo accessibili contenuti personali che talvolta risultano difficili da esprimere attraverso il solo linguaggio verbale (Saita & Tramontano, 2018). Successivamente, attraverso domande stimolo è stato possibile raccogliere riflessioni relative a quattro aree tematiche: aspetti positivi del lavoro, elementi stressanti e sfide, strategie di coping, e proposte di miglioramento.

Tutte le interviste e il focus-group sono stati audio-registrati e successivamente trascritti. I trascritti sono stati analizzati secondo i principi del modello teorico dei processi collusivi che caratterizzano le realtà sociali, elaborato da Carli e Paniccia (2003). Gli autori definiscono il concetto di collusione come la simbolizzazione affettiva che si sviluppa all'interno di uno specifico contesto sociale, ad opera degli individui che vi appartengono. In altri termini, la collusione può essere intesa come la "cultura locale" di coloro che instaurano "relazioni emozionate" tra gli individui di quel contesto. La collusione, così concepita, viene comunicata attraverso una trasformazione simbolico-affettiva dell'emozione in parole dense – caratterizzate da elevata polisemia e bassa ambiguità – che permettono di dare forma e organizzare le esperienze emotive che emergono nelle relazioni con gli altri, entro il contesto in cui si è inseriti. Secondo Carli e Paniccia (2003), il linguaggio veicola i significati simbolici ed emozionali più profondi che strutturano le esperienze umane, favorendo così la costruzione di "mondi di significato", ovvero forme simboliche che l'essere umano attribuisce all'esperienza per renderla condivisibile. Questo processo risponde a un'esigenza fondamentale: per comprendere la realtà, le persone hanno bisogno di attribuirle un significato emotivo, che viene poi condiviso con coloro che vivono lo stesso contesto (Carli & Paniccia, 2003).

Per esplorare tali dimensioni, è necessario destrutturare i trascritti (verbatim) dalle loro connessioni intenzionali, adottando tecniche che rendano possibile l'Analisi Emozionale del Testo (Carli & Paniccia, 2003). In particolare, l'analisi delle occorrenze e co-occorrenze delle parole dense ha permesso una progressiva riduzione della loro polisemia, favorendo una più profonda comprensione del loro significato simbolico ed emotivo.

Sulla base di questo impianto teorico, il presente studio individua nell'espressione linguistica il campo privilegiato d'indagine, riconoscendola come via d'accesso ai modelli culturali e alle rappresentazioni condivise che strutturano l'esperienza lavorativa all'interno dell'organizzazione.

Partecipanti

Il progetto ha previsto la costituzione di due gruppi distinti, coinvolti in momenti differenti del percorso: la Committenza (C) e il Gruppo di Lavoro (GL). La committenza era composta dalle sei figure manageriali (N = 6) appartenenti alla dirigenza dell'Ente. Questo gruppo aveva già autonomamente rilevato la necessità di un intervento di analisi organizzativa, giungendo alla decisione di formulare una richiesta formale agli autori del presente studio.

Il Gruppo di lavoro (GL), invece, era costituito da otto partecipanti (N = 8), tra dirigenti intermedi e operatori dell'Amministrazione. L'adesione, avvenuta su base volontaria in risposta ad un invito interno esteso a circa 50 persone, ha evidenziato una partecipazione selettiva. Pur potendo segnalare un potenziale bias di auto-selezione, questo aspetto non inficia la coerenza con gli obiettivi dello studio, di natura esplorativa e focalizzati sull'emersione di rappresentazioni simboliche più che su una validità statistica del campione.

Il GL ha avuto un ruolo attivo nella fase esplorativa del progetto, contribuendo in modo significativo alla produzine di contenuti discorsivi e alla condivisione di vissuti legati al contesto organizzativo.

Analisi dei dati: Analisi tematica dei contesti elementari (CE)

Coerentemente con il modello teorico assunto, l'analisi tematica dei contesti elementari (CE), condotta tramite il software T-LAB (Lancia, 2004) su un unico corpus diviso in due sottoinsiemi in base alla variabile di disegno "ruolo" (committenza – 71,62% delle produzioni discorsive; gruppo di lavoro – 28,38% delle produzioni discorsive), ha restituito una mappa articolata della rappresentazione delle problematiche emerse sia dalle interviste individuali che dal focus group.

T-Lab è uno strumento di analisi testuale a metodo misto che, coniugando linguistica e statistica, permette al ricercatore di effettuare analisi rigorose ed affidabili (Lancia, 2004). Entro la logica sottesa a questo strumento, il contesto linguistico presenta (o potremmo dire, in un'accezione più radicale, crea) «mondi abitati da oggetti e individui in relazione reciproca, mondi parlati e pertanto tradotti in testi che è possibile analizzare» (Lancia, 2004, p. 56).

La segmentazione è stata effettuata con un metodo di clustering non supervisionato *bisecting k-means* (Savaresi & Booley, 2001; Steinbach et al., 2000), considerando un massimo di 10 cluster. Tale metodo prevede che N soluzioni di clusters tematici vengano generati dal software utilizzando un criterio di *massima similarità*, il quale prevede che i lemmi all'interno dello stesso cluster siano massimamente simili tra loro e massimamente diversi dai lemmi che invece caratterizzano gli altri clusters (Lancia, 2004). Una sola delle partizioni generate, quella ritenuta più adeguata, viene poi scelta dal ricercatore, che procede ad interpretare l'output assegnando un *label* ad ogni cluster in base alle parole "dense" (ossia lemmi con elevati valori di $\chi2$ e valori di *p-value* significativi) che li caratterizzano e alla percentuale di varianza spiegata dal cluster stesso.

La scelta della soluzione finale deriva, pertanto, da un processo analitico circolare, in cui il ricercatore procede cercando di individuare la partizione che permetta la costruzione di sistemi di coerenza emozionale maggiormente riferibili ai lemmi estratti e capace di includerne la maggior parte (Carli & Paniccia, 2003).

Il vocabolario di riferimento contava complessivamente 423 lemmi con un cut-off di occorrenza ≥ 3, in quanto le occorrenze poco frequenti e dunque non espressive di rappresentazioni condivise dai soggetti coinvolti non state ritenute utili ai fini della ricerca.

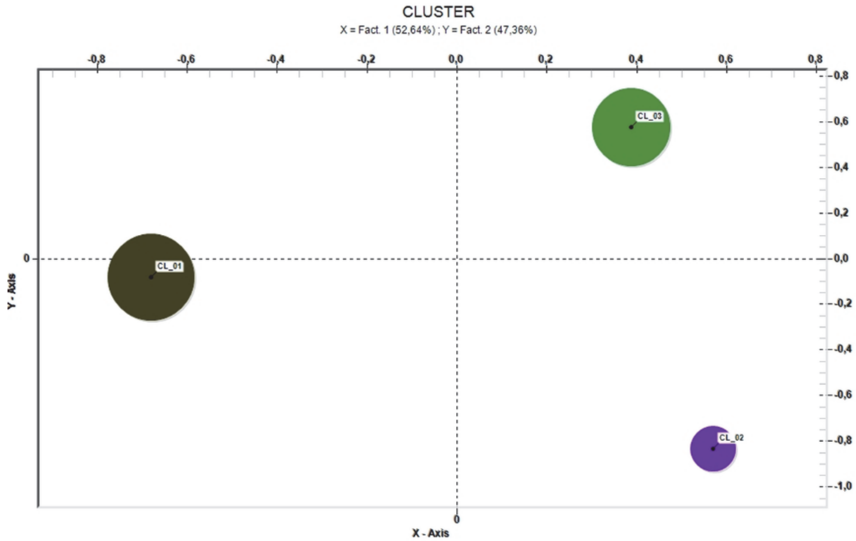
Risultati

La Committenza

Relativamente alla produzione discorsiva della committenza sono emersi tre cluster tematici, che coprono rispettivamente il 47,71%, il 20,38%, il 37,91% della varianza totale.

La Figura 1 mostra il campo fattoriale entro cui i tre cluster si posizionano originato dall'intersezione tra il Fattore 1 che spiega il 52.64% di varianza dei dati e il Fattore 2 che spiega invece il 47.36%.

Fig. 1 – Analisi Tematica dei Contesti Elementari: distribuzione nello spazio fattoriale della soluzione a 3 cluster



La Tabella 1 riassume le caratteristiche dei tre cluster, con le unità lessicali significative e i valori significativi di χ2, e contiene citazioni esemplificative tratte dalle verbalizzazioni dei partecipanti

Tab. 1 – Descrizione dei cluster emersi nella Committenza, in ordine di varianza spiegata (sono riportati i Lemmi con valore χ^2 superiore a 6)

Cluster (label)	**Varianza spiegata**	**Lemmi significativi (χ^2)**	**Citazioni rappresentative**
Cluster 1: Parcellizzazione dei problemi	47,71%	problema (31,261) vedere (20,856) collega (16,524) famiglia (12,005) dirigente (10,196) competenza (7,521) coinvolgere (7,521) sbagliare (7,496)	«quando c'è qualche problema che coinvolge un pò tutti, si dovrebbe vederlo e ragionare un pò tutti insieme» «la competenza da una parte mette ordine nelle cose, però deve anche fare in modo di far fluire l'informazione e arrivare alla soluzione del problema»

			«io mando la mail al collega, però non dico niente […] è tutto molto poco diretto.»
Cluster 3: Difformità	37,91%	diversità (11,608) bisogno (9,946) nostro (9,163) affrontare (6,896) cambiamento (6,626) interpretazione (6,626) criterio (6,626) pensare (6,183)	« la nostra è una amministrazione con una diversità di profili, diversità di contratti … non c'è uniformità e anche questo rendere cose un po' complesso il rapporto tra le persone» «ognuno interpreta le regole a modo suo, e alla fine non c'è uniformità nei criteri»
Cluster 2: Supporto	20,38%	aiuto (20,983) direttore generale (20,983) collaboratore (16,067) modalità (14,344) dirigere (10,913) creare (9,291)	«l'aiuto più forte lo avverto dai collaboratori. È da lì che cerco di costruire, anche quando manca una chiara linea operativa» «è importante avere sia un gruppo di colleghi con cui confrontarsi anche se ci sono tematiche diverse … sia un direttore generale che ti aiuta quando hai le idee poco chiare »

Il cluster 1, che copre la percentuale più alta della varianza totale (47,71%), sembra riflettere un insieme di criticità (cfr. il lemma: problema) che riguardano sia gli aspetti relativi al proprio lavoro (cfr. ad esempio i lemmi competenza, sbagliare), sia gli aspetti più relazionali esterni al contesto lavorativo e ad esso interni (cfr. i lemmi: famiglia, collega, dirigente). Il focus appare dunque centrato sulle difficoltà, siano esse problemi concreti, siano dubbi relativi alla gestione delle dinamiche relazionali all'interno del gruppo dirigente, evidenziando un senso di frammentazione e una mancanza di coordinamento che possa essere percepito come efficace. Sulla base di questi contenuti, il cluster può essere denominato: "Parcellizzazione dei problemi".

Il Cluster 2, che copre la percentuale più bassa della varianza totale (20,38%), sembra indicare in aspetti collegati alla dimensione relazionale alcune strategie di soluzione dei problemi (cfr. il lemma: aiuto), talvolta privilegiando una dimensione relazionale verticale, altre volte orizzontale (cfr. i lemmi: direttore generale, collaboratore). In questo cluster il focus appare centrato su strategie di coinvolgimento nella soluzione di problemi, che attivate dopo aver identificato le molteplici caratteristiche di una situazione, possono condurre alla generazione di alternative inconsuete (cfr. il lemma: creare). Sulla base di questi contenuti, il cluster può essere denominato: “Supporto”.

Infine il cluster 3 (copre una percentuale della varianza totale corrispondente al 37,91%) tende a sottolineare la complessità insita nella gestione dei problemi (cfr. i lemmi diversità, bisogno), a partire da una varietà di necessità e di spinte al raggiungimento degli obiettivi che rimandano anche al cambiamento normativo, a nuove direttive e all’esigenza di rendere comprensibili, e quindi gestibili le situazioni (cfr. i lemmi: affrontare, cambiamento, interpretazione, criterio). Sulla base di questi contenuti, il cluster può essere denominato: “Difformità”.

La posizione di ciascun cluster nello spazio fattoriale (si veda Fig.1), contribuisce a comprendere la tipologia dei legami tra i cluster, così come rappresentati da ciascun fattore, inteso quale dimensione latente che struttura le relazioni tra di essi.

Il primo fattore, orizzontale (varianza spiegata 52.64%), contrappone le difficoltà e le reazioni emozionali collegate alle situazioni di stress lavorativo (polo negativo, cluster 1) alle strategie di soluzione (polo positivo, cluster 2 e 3); per tale ragione il fattore potrebbe essere denominato “stress e coping”. Il secondo fattore, verticale (varianza spiegata 47.36%), distingue tra due differenti modalità di affrontare i problemi: in modo frammentato, individuale (polo positivo, cluster 3) oppure condiviso, collettivo (polo negativo, cluster 2); per tale ragione il fattore potrebbe essere denominato “dimensione relazionale”.

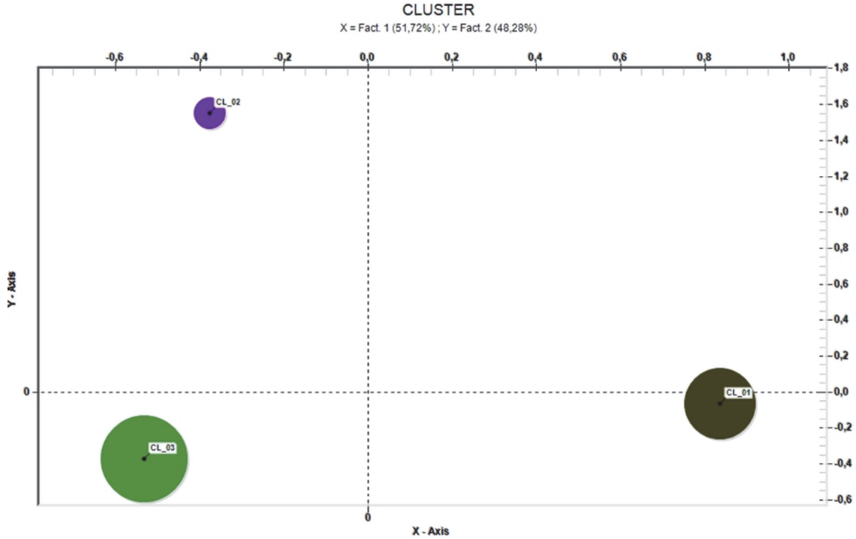
Nel complesso, l’analisi dei discorsi della Committenza indica come a livello esplicito sia descritta una organizzazione verticistica e caratterizzata da divisioni, che comunque consente confronto e supporto sia tra pari che tra differenti livelli (leadership e followership), senza che tuttavia si eliminino contrasti o insoddisfazioni per divergenze inter-ruolo, o tra differenti settori.

Gruppo di Lavoro

Anche in questo caso l’analisi tematica dei contesti elementari ha evidenziato la presenza di tre cluster, che coprono rispettivamente il 38,75%, il 13,75%, il 47,50% della varianza totale.

La Figura 2 mostra il campo fattoriale entro cui i clusters di lemmi si posizionano, originato dall'intersezione tra il Fattore 1 che spiega il 51.72% di varianza dei dati e il Fattore 2 che spiega invece il 48.28%.

Fig. 2 – Analisi Tematica dei Contesti Elementari: distribuzione nello spazio fattoriale della soluzione a 3 cluster



La Tabella 2 riassume le caratteristiche dei tre cluster, con le unità lessicali significative e i valori significativi di χ2, e contiene altre citazioni esemplificative dei partecipanti.

Tab. 2 – Descrizione dei cluster emersi nel Gruppo di Lavoro, in ordine di varianza spiegata (sono riportati i Lemmi con valore χ^2 superiore a 5)

Cluster (label)	**Varianza spiegata**	**Lemmi significativi (χ^2)**	**Citazione rappresentative**
Cluster 3: Collaborazione	47,50%	trovare (8,514) colleghi (8,303) cercare (7,701) partecipare (6,217) positivo (5,704)	«Il supporto tra colleghi è davvero forte […] significa fare squadra.» «questa mancanza di comunicazione non è tanto tra colleghi, che una soluzione la si trova anche cercando di aumentare il senso di coesione … questo invece manca a livello verticale»

Cluster 1: Vissuti soggettivi	38,75%	persone (14,778) fotografia (14,114) personale (14,114) vivere (10,087) faro (8,399) sentire (6,999)	«…attraverso le fotografie riuscire a esternare un sentire … il mare che rappresenta la voglia profonda di continuare a conoscere, di scoprire.» «Mi sento un faro per le persone, sia di giorno che di notte.» «… ispirare senso di protezione senso di accudimento in mio lavorare giusto o sbagliato che essere io ricoprire in questo modo io cercare di accudire avere attenzione verso il personale che coordino …»
Cluster 2: Disomogeneità	13,75%	emergere (39,160) ufficio (21,218) riconoscimento (11,681) vertice (9,452) mancanza (6,197)	«emerge una mancanza di omogeneità tra gli uffici rispetto alle procedure, come se … ci fossero uffici che anziché muoversi all'unisono si muovono un po' … anche una distanza tra teoria e pratica» «Questo ha rafforzato in me l'idea che manchi la comunicazione tra i diversi livelli. Le decisioni vengono prese in alto e scaricate in basso, senza alcun ascolto.»

Il cluster 1 (percentuale della varianza totale del 38,75%) raccoglie espressioni metaforiche per esprimere i pensieri più complessi relativi all'esperienza professionale e al legame tra le persone. Ne emergono soprattutto concezioni, sensazioni, percezioni e riflessioni sul lavoro e sulla propria collocazione nel contesto organizzativo (cfr. i lemmi: persone, fotografia, personale, vivere, mare, sentire). Le immagini infatti smuovono emozioni e consentono di cogliere aspetti meno accessibili e, pertanto, meno comunicabili attraverso il canale verbale (Cigoli, 2006). Il focus appare dunque centrato sull'insieme delle esperienze soggettive e sul significato che viene attribuito a ciò che accade, oltre che al modo in cui queste esperienze influenzano la visione del mondo, il proprio modo di sentire e comportarsi. Sulla base di questi contenuti, il cluster può essere denominato: "Vissuti soggettivi".

Il cluster 2 copre la minor percentuale di varianza spiegata (13,75%) e sembra riflettere criticità nella comunicazione e nel coordinamento sia tra i diversi uffici, sia con i livelli superiori (cfr. i lemmi: emergere, ufficio, e mancanza) indicando la percezione di scarsa chiarezza normativa e differenze nella gestione dei problemi. Multiformità procedurale e assenza di standardizzazione sono i concetti emergenti e sulla base di questi contenuti, il cluster può essere denominato: "disomogeneità".

Infine, il cluster 3 copre la maggior percentuale di varianza spiegata (47,50%) e restituisce un'immagine di coesione interna e collaborazione attiva tra colleghi, anche attraverso un reciproco sostegno che accantona quelli che possono essere percepiti come interessi di parte. I lemmi che caratterizzano questo cluster sono: trovare, colleghi, cercare, partecipare, positivo. Si evidenzia la presenza di legami orizzontali significativi che agiscono come fattori protettivi e facilitatori di benessere. Sulla base di questi contenuti, il cluster può essere denominato: "Collaborazione".

Passando ad analizzare la posizione di ciascun cluster nello spazio fattoriale (si veda Fig. 2), si osserva come il primo fattore, orizzontale (varianza spiegata 51.72%), contrappone i vissuti personali e soggettivi (polo negativo, cluster 1) ad elementi riconducibili ad un livello lavorativo, sia rispetto alle difficoltà che a ciò che viene percepito come supporto nelle situazioni di difficoltà lavorative (polo positivo, cluster 2 e 3); per tale ragione il fattore potrebbe essere denominato "Personale e professionale".

Il secondo fattore, verticale (varianza spiegata 48.28%.), anche nelle produzioni discorsive del Gruppo di lavoro distingue tra due differenti modalità di affrontare i problemi: in modo disomogeneo, contrapposto (polo negativo, cluster 3) oppure condiviso, collettivo (polo positivo, cluster 2); per tale ragione il fattore potrebbe essere denominato "aspetti interpersonali".

Nel complesso, l'analisi dei discorsi del Gruppo di lavoro conferma la narrazione della Committenza e descrive una organizzazione in cui le divisioni incidono significativamente sulle difficoltà che devono essere affrontate, così come i colleghi e il loro supporto sono risorse a cui attingere. Nel loro insieme, i discorsi degli operatori delineano una realtà organizzativa in cui la carenza di coordinamento verticale è compensata da una solida rete di relazioni orizzontali. La necessità della presenza di elementi di colleganza sembra a loro giudizio costituire una risorsa cruciale per affrontare le difficoltà del lavoro.

Discussione

Lo scopo del presente studio era esplorare aspetti espliciti ed impliciti inerenti a una richiesta di intervento formativo e di supporto al cambiamento organizzativo proveniente da una pubblica amministrazione – con particolare attenzione ai significati simbolici ed emozionali presenti ai diversi livelli gerarchici.

In linea con il modello teorico adottato (Carli & Paniccia, 2003), l'analisi condotta ha consentito di trasformare una iniziale richiesta delegante – centrata sull'aspettativa di un intervento esterno – in un'occasione generativa, orientata alla co-costruzione di un oggetto di lavoro più ampio, condiviso e dotato di senso.

Dall'analisi dei materiali raccolti e analizzati emergono due livelli di rappresentazione differenti, ma profondamente interconnessi che mettono in luce la cultura organizzativa e le modalità di attribuzione di significato al lavoro e alla propria funzione professionale, condivise dai due gruppi.

In particolare, nella produzione discorsiva della committenza emergono tre nuclei tematici principali che delineano una realtà organizzativa complessa e frammentata, oltre che una visione del lavoro da parte delle figure manageriali caratterizzata da difficoltà operative e relazionali e da un tentativo di cercare soluzioni attraverso il supporto reciproco.

Nel gruppo di lavoro, invece, i discorsi si orientano verso una narrazione centrata sulla dimensione soggettiva dell'esperienza lavorativa, accompagnata da una critica esplicita alle disfunzionalità sistemiche e da una valorizzazione della rete relazionale orizzontale, di collaborazione tra pari.

Nel tentativo di cogliere gli aspetti di "simbolizzazione affettiva", particolarmente rilevante entro i processi di adattamento (Carli, 2016) richiesti dai cambiamenti organizzativi che caratterizzano il contesto in oggetto, è possibile individuare negli aspetti relazionali sia ciò che fa problema che ciò che costituisce risorsa. Sembra, in altre parole, che, come sottolinea Cigoli (2003) le relazioni si configurino al contempo quale principale fattore di rischio per il benessere delle persone e come potenziale risorsa in grado di esercitare un ruolo protettivo sulle persone medesime. Questa prima considerazione riguarda aspetti di socializzazione e legittima la richiesta di un intervento da parte di professionisti psicologi la cui competenza riguarda proprio gli ambiti relazionali.

Le rappresentazioni emerse descrivono un'organizzazione tendenzialmente verticistica e parcellizzata, nella quale le esigenze di coordinamento si sovrappongono a vissuti di esclusione e confusione tra dimensioeni oggettive e percezioni soggettive. Se da un lato i "fatti" rimandano ad una struttura frammentata per settori, o meglio, *divisioni,* dall'altra i vissuti di esclusione generano risentimenti, isolamento (April et al., 2023) e, in alcuni casi, fantasie distruttive nei confronti di ciò da cui ci si sente esclusi (Carli, 2016).

Per quanto riguarda l'interpretazione delle dimensioni latenti che organizzano le relazioni tra i cluster emersi sia dalle analisi relative alle verbalizzazioni della Committenza sia in quelle relative al Gruppo di Lavoro, emergono delle contrapposizioni tra il lavoro con le sue complessità da un lato e i vissuti emozionali dall'altro. In entrambi i casi questa contrapposizione riguarda il fattore che spiega la quota di varianza più ampia.

Si tratta di una contrapposizione che costituisce un continuum che va dagli aspetti di concretezza e di prescrizioni che caratterizzano il lavoro (attenzione e percezione delle problematiche operative e delle criticità quotidiane) ad una dimensione emozionale, cioè al contenuto simbolico della percezione del proprio lavoro con i suoi aspetti gratificanti oppure frustranti. Si tratta di proiezioni che trovano origine nella storia personale dell'individuo e dalle sue esperienze emotive, ma anche dai rapporti che si creano nel contesto lavorativo (Forti & Natili, 2014), in altre parole riflettono il mondo interno del soggetto e il contesto di lavoro.

Proiezioni che trovano una più chiara descrizione considerando il secondo fattore, quello costituito dall'asse verticale, che in entrambi i gruppi distingue tra una modalità di affrontare sia i problemi di lavoro che le difficoltà emotive in modo individuale oppure condiviso. Si tratta di una contrapposizione che rimanda alla responsabilità personale e alla autoregolazione delle emozioni da un lato e dall'altro alla possibilità di agire in un ambiente/clima relazionale caratterizzato da fiducia e coesione.

Considerando che si tratta di due gruppi di soggetti che occupano ruoli gerarchicamente differenti entro l'organizzazione, questa dimensione potrebbe rimandare anche a differenze nell'esercizio della discrezionalità e che, riprendendo le definizioni del lavoro di Jaques (1970), richiama aspetti prescrittivi e aspetti discrezionali del lavoro. Questi ultimi, quali spazi in cui vengono operate delle scelte, costituiscono anche i contesti che maggiormente suscitano ansia, a differenza di quel che accade nel rispetto delle prescrizioni.

I cluster che si rifanno al tema del supporto (Committenza) e a quello della condivisione (Gruppo di lavoro), pur rimandando a differenti tipologie di scambio, lasciano spazio all'ipotesi che, nella condivisione di un pensiero orientato alla soluzione di un problema o di una emozione, si realizzi una forma di astrazione, di pensiero che può condurre sia alla formulazione di letture generative della situazione in cui l'assunzione di responsabilità è condivisa, sia al riconoscimento di significati emozionali attribuiti a un'esperienza.

In conclusione, questi risultati suggeriscono che l'organizzazione in oggetto sia attraversata da modelli di senso plurali, talvolta incoerenti e parzialmente non comunicanti, che rischiano di cristallizzarsi in posizioni con-trapposte se non messi in dialogo. L'analisi della domanda assume qui un ruolo trasformativo fondamentale: da semplice risposta a una richiesta formativa, essa diventa dispositivo di decodifica simbolica, capace di costruire uno spazio intermedio tra esigenze organizzative e vissuti soggettivi. La domanda implicita non è dunque un bisogno da soddisfare, ma si è progressivamente rivelata come una esigenza di pensabilità, di elaborazione condivisa del cambiamento, e di riconoscimento delle emozioni che lo accompagnano. Appare utile, perciò, progettare percorsi che integrino momenti di rielaborazione simbolica per promuovere l'incontro tra i diversi "modelli culturali" che abitano l'organizzazione.

L'uso dell'analisi emozionale del testo, ancorata al modello dei processi collusivi, ha permesso di accedere alla "cultura locale" dell'organizzazione, ovvero al sistema condiviso di emozioni e simboli che orienta i comportamenti, le relazioni e le attribuzioni di senso. Il linguaggio si conferma qui non solo come mezzo di comunicazione, ma come campo d'indagine privilegiato per accedere ai mondi di significato che strutturano l'esperienza lavorativa. La collusione, intesa come forma simbolica delle emozioni condivise, si traduce in orientamenti al lavoro, modalità relazionali e strategie di coping che possono essere oggetto di ri-negoziazione consapevole solo se riconosciute e pensate collettivamente.

In ultima analisi, questo studio conferma che un intervento efficace, coerente con il paradigma della ricerca-azione, non può prescindere da una profonda analisi della domanda. Non si tratta di una diagnosi, ma di un processo dialogico che coinvolge soggetti, contesti e significati. Solo da questa base è possibile avviare una progettualità condivisa, capace di integrare esigenze organizzative e vissuti individuali in una visione trasformativa e sostenibile del cambiamento.

Limiti

Il presente studio presenta alcune limitazioni che è opportuno esplicitare. In primo luogo, la partecipazione al focus group è avvenuta su base volontaria, e ha coinvolto una porzione ridotta del personale invitato (8 su circa 50 potenziali partecipanti). Questo potrebbe aver introdotto un *bias* di auto-selezione, poiché i partecipanti più motivati o sensibili alle tematiche proposte potrebbero aver aderito in misura maggiore.

In secondo luogo, il disegno qualitativo e la natura esplorativa della ricerca, uniti alla numerosità contenuta del campione, non consentono la generalizzazione dei risultati. Tuttavia, i dati raccolti permettono di individuare configurazioni di significato che, pur non statisticamente rappresentative, risultano trasferibili e concettualmente rilevanti per altri contesti organizzativi pubblici attraversati da processi di cambiamento.

Infine, la conduzione di un solo focus group limita la possibilità di confronto tra sottogruppi o aree funzionali diverse. Studi futuri potrebbero ampliare la raccolta dati per includere più momenti di confronto e una maggiore varietà di ruoli.

Implicazioni pratiche

I risultati evidenziano la necessità, nelle organizzazioni complesse e istituzionalizzate come l'Amministrazione Penitenziaria, di affiancare agli interventi formativi tradizionali momenti strutturati di riflessione simbolica e condivisione intersoggettiva. Tali spazi possono facilitare l'elaborazione delle trasformazioni istituzionali imposte "dall'alto" e supportare l'attivazione di processi generativi di senso.

L'analisi della domanda, in questo senso, rappresenta non solo un atto preliminare all'intervento, ma una vera e propria pratica trasformativa, in grado di restituire significato alle crisi organizzative e di promuovere forme di partecipazione non difensive. Lo psicologo, in questa prospettiva, non è chiamato a "risolvere problemi", ma a facilitare la simbolizzazione e il pensiero emozionato sulle dinamiche in atto, favorendo la costruzione di visioni condivise del cambiamento.

Dichiarazione di conflitto di interessi

Gli autori dichiarano di non avere conflitti di interesse in relazione al presente studio.

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