

Voce

Integrating students' perspective in the
development of health education programs

Master's thesis by

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Abstract

English

In the aftermath of the pandemic, young people have faced numerous challenges, including an increased prevalence of mental health disorders, which can contribute to the development of eating disorders. This thesis aims to explore the difficulties individuals encounter along their path by analyzing the system of actors surrounding adolescents. It also seeks to identify potential areas where design interventions can be applied, focusing on the pivotal roles of certain places and actions that can enhance help-seeking behaviors. Through testimonials and interviews with various actors, it became evident that schools play a crucial role in promoting health and improving the well-being of students. To deepen the research, the exploration was focused within the context of the province of Trento, where the health prevention department has already initiated actions in schools through the project of "health-promoting schools". This initiative aims to enhance school well-being by considering the perspectives of the entire school community. However, the student's voice remains challenging to capture effectively. In order to promote student participation, the study examined the benefits of this network, leading to the development of Voce.

Voce is a service designed to empower adolescents to explore health-related topics of interest in an interactive and exploratory manner. It provides students with a collaborative toolkit that facilitates discussions and encourages reflection on their personal interests. Through collaboration with the health prevention department, Voce enables students to contribute their input, which is then transformed into actionable needs, leading to further actions and initiatives, such as health education programs implemented in schools. The development of Voce is the result of continuous exchanges with stakeholders, including the health prevention department and schools. By integrating their insights and expertise, the service aims to effectively engage students, address their health-related concerns, and drive positive actions within the school environment.

Abstract

Italiano

Dopo la pandemia, i giovani hanno affrontato numerose sfide, tra cui un aumento della prevalenza dei disturbi mentali, che possono contribuire allo sviluppo dei disturbi alimentari. Questa tesi si propone di esplorare le difficoltà che gli individui incontrano lungo il loro percorso analizzando il sistema di attori che circonda gli adolescenti. Cerca inoltre di individuare le potenziali aree in cui possono essere applicati interventi di design, focalizzandosi sul come determinati luoghi siano fondamentali per migliorare i comportamenti di ricerca di aiuto. Attraverso testimonianze e interviste a vari attori, è emerso che le scuole svolgono un ruolo cruciale nella promozione della salute e nel miglioramento del benessere degli studenti. Per entrare nel merito della ricerca è stato scelto di focalizzarsi nel contesto della provincia di Trento, dove il dipartimento di prevenzione alla salute ha già avviato azioni nelle scuole tramite il progetto di "scuole che promuovono salute". Questa iniziativa mira a migliorare il benessere scolastico considerando le prospettive di tutta la comunità scolastica. Tuttavia, è ancora difficile catturare efficacemente il punto di vista degli studenti. Al fine di promuovere la loro partecipazione, lo studio ha esaminato i benefici di questa rete, portando allo sviluppo di Voce.

Voce è un servizio progettato per permettere agli adolescenti di esplorare argomenti legati alla salute di loro interesse in modo interattivo ed esplorativo. Fornisce agli studenti un set di strumenti collaborativi che facilitano le discussioni e incoraggiano la riflessione sui loro interessi personali. Attraverso la collaborazione con il dipartimento di prevenzione alla salute, Voce consente agli studenti di contribuire con le loro opinioni, che vengono poi trasformate in bisogni attuabili, l'obiettivo è quello di portare ad ulteriori azioni e iniziative, quali i programmi di educazione alla salute implementati nelle scuole. Lo sviluppo di Voce è il risultato di continui scambi con gli stakeholder, tra cui il dipartimento di prevenzione alla salute e le scuole. Integrando le loro intuizioni e competenze, il servizio mira a coinvolgere efficacemente gli studenti, affrontare le loro preoccupazioni legate alla salute e promuovere azioni positive nell'ambiente scolastico.

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CHAPTER ONE

Introduction

Introduction

1.1 Project Overview

In a post-COVID situation, household habits have changed, impacting mental health and leading to the emergence of eating disorders, particularly among vulnerable individuals such as children and young people (Iacobucci, 2022).

This research aims to understand the difficulties surrounding these disorders, as they significantly affect physical and mental well-being (Himmeric et al., 2021). Increasing awareness of the risk factors and effective treatment options can promote a greater understanding of these disorders. Additionally, eating disorders not only affect the individuals themselves but also significantly impact their families and society as a whole (Richardson et al., 2020). Due to the prevalence of prejudice and stigmatization associated with eating disorders, promoting prevention activities and research can raise societal awareness (Brelet et al., 2021).

The preliminary study focuses on exploring the challenges faced by adolescents who are the target group and examining the impact of these challenges on their recovery journey. The causes of eating disorders are multifaceted and can include factors such as the parent-child relationship, psychosocial stress from the environment, and a lack of information on the subject (Erriu et al., 2020).

Despite the growing recognition of eating disorders as severe health conditions, many young individuals still encounter significant challenges in accessing appropriate treatment and support. While society primarily focuses on addressing the healthcare needs of an aging population, it is crucial to acknowledge that the foundation for lifelong

mental health is established during childhood, especially in adolescence (Birchwood et al., 2013).

Therefore, it has become evident that researching effective ways to promote adolescent well-being is necessary. The factors facilitating help-seeking can be summarized as social and educational, emphasizing the importance of self-awareness and addressing individual perceptions (Regan, 2017).

Analyzing the various stakeholders involved made it possible to understand how different individuals around adolescents contribute and what challenges exist in promoting well-being. The study also examines the international context, delving into the specific context of Trentino, a region in Italy.

This region was chosen due to its commitment to health education activities to increase students' self-awareness. However, societal attachment to traditions in Trentino has resulted in stigma-related issues. Therefore, the research will demonstrate how raising awareness in key locations frequently visited by young individuals, such as schools, can improve access to healthcare services by empowering adolescents to understand their care requirements.

This approach involves establishing an educational framework within the healthcare system, reformulating stakeholder interaction dynamics, and fostering closer collaboration between professionals and the education sector.

1.2 Covid19 and its impact on eating disorders

The research starts by investigating the effects of covid within families, focusing on how the most vulnerable, like children and young people, are impacted.

More specifically, the Covid19 pandemic harshly impacted mental health, including food-related behaviors (Chauvet-Gelinier, J.-C. et al, 2022). The severe measures imposed by the governments have directed several environmental changes: the suspension of schools, factories, offices, and all recreational activities; all the indispensable activities were confined at home, leading to suspending physical activities and forcing them to live with the family 24/7. People answered these measures differently, but children and young adults were at risk of

being left out (Iacobucci, 2022).

Isolation has psychologically impacted young people and their families, generating anxiety, depression, feelings of lack of control, excessive worrying, stress and loneliness (Kim et al, 2021; Rodgers et al, 2020). The pandemic has broken established rules by increasing potential stressors for young people, leading to abnormal daily rhythms: loss of routine, and reduction of outdoor play activities (Sansavini et al, 2020).

Several international studies (Richardson et al, 2021; Lin et al, 2021; Iacobucci, 2022;) and research that analyzed the effect of the pandemic on youth have highlighted the necessity of intervention on mental health, raising awareness in order to increase help-seeking behavior (Bullivant et al., 2020). For example, a Chinese study carried out in the first four months after the outbreak of the pandemic found how depressive and anxious symptoms increased in the participants of primary and secondary school students (Xie et al, 2020) leading to an increase in demand for mental health services, and however, in other countries like England being closely related to eating disorders (Iacobucci, 2022).

Studies have shown that there have been higher rates of eating disorder symptoms, anxiety, and depression compared to pre-pandemic levels (Richardson et al, 2020). The lockdown and social distancing measures have made it difficult for individuals with eating disorders to access the support and treatment they need. Outpatient visits have declined, with only online psychotherapy available, and inpatient visits were limited to only the most severe cases. This has significantly impacted how services are delivered, creating new challenges for patients and healthcare providers.

The lack of access to treatment and support has had a detrimental effect on the relationship between healthcare providers, patients, and their caregivers, which are included providing continuous support and understanding in an often complex and challenging journey. The transition to online therapy has also been difficult for many individuals, as it has limited the level of interaction and support that can be provided. Furthermore, family therapy sessions have not been available, making it more challenging for families to

understand and support their loved ones.

Furthermore, the covid19 pandemic has highlighted the importance of addressing the needs of individuals with eating disorders and the need for continued support and resources. Healthcare providers, families, and communities must work together to ensure that those in need receive the care and support they require during this challenging time. (Shaw et al., 2021)

Understanding the progression of eating disorders over time is crucial. It is important to work at various levels, including prevention and active support, involving the individuals around adolescents to provide assistance throughout their journey.

1.3 Why is it important to look at this topic

Eating disorders are often perceived as a hidden burden because of the stigma and shame attached to them. People often view eating disorders as trivial and self-inflicted, as mental disorders and obesity. This stigma can stop people from getting help and result in poor public awareness of these disorders (Zipfel et al., 2022).

The pandemic has taken a toll on the mental health of individuals worldwide, and this impact has been felt even more acutely by those with existing eating disorders or those at risk of developing one. Studies of 5.2 million people's electronic health records show that the number of eating disorders has increased by 15.3% during the pandemic compared to previous years. (Taquet et al., 2021)

Studies show that covid has unexpectedly affected children and young people, combining the state of mental instability provoked by uncertain times with a disproportionate increase of eating disorders (Lin et al., 2021; Iacobucci, 2022). Indeed eating disorders have a particular impact both on the physical and psychological development of children and adolescents (Hornberg L., 2021), turning out to be a key issue for development and growth.

According to Katzman (2021), the pandemic has brought attention to the problem of eating disorders, He stated, "Unfortunately, it took a disaster like the COVID-19 pandemic to put the spotlight on eating disorders", and "It is a wake-up call for making eating

disorders a priority”(Katzman, 2021: pp.536). It is stated how predominant the need to take action is, matching the services with the increasing demand among young people. There is a need of researching and developing optimal care pathways, first improving awareness and recognition in primary care to facilitate early engagement in the treatment and second improving the transition from inpatient services to home-based care increasing community support.

1.4 Theoretical framework

Research overview

In this phase, the objective was to understand the current system and the approach to health services when an eating disorder is developing. It was important also to empathize and understand not only the problems faced by adolescents in the realm of accessing to care but also to get an overview of the other figures involved and which rotates around the adolescents. This was followed by theoretically exploring the paths of clinical interventions, which challenges are encountered and which figures are involved, and understanding limits and possibilities. Since the difficulties may be different according to pathways it was analyzed on which are the difficulties in accessing care. It became essential to interact with clinical figures but also with not clinical actors such as associations which are the figures which make access to services more smooth and act as facilitators, the presence of associations on Italian territory is very extensive so after research, it was conducted field research to get a sense of the real context.

Research goal

In order to mitigate the challenges faced by people when accessing to care, the insecurity of the professional to whom to turn, the fear of seeking help because of stigma, lack of awareness of the issue, the research investigates the role of service design and of service design practices in developing new modes of interaction between users, working on developing consciousness and developing an adolescent-centered service. To achieve this goal the

objectives are:

- understand the context of the development of an eating disorder;
- discover the various components of the ecosystem and the challenges and opportunities present;
- investigate the needs and desires of the stakeholders and bodies involved;
- exploring people and places that are fundamental to the adolescent's development ;
- explore existing solutions and deepen in the defined context.

Research questions

- What are the factors that bring the development of an eating disorder?
- What are the adolescents' and other stakeholders' challenges and needs?
- How can empowerment programs and interventions help adolescents with eating disorders overcome the barriers to seeking help?
- What are the key factors influencing the effectiveness of empowerment programs for adolescents?
- **How can a service design approach be applied to create more empowering and effective healthcare services, and what specific design elements and strategies should be considered to enhance their sense of control, agency, and self-efficacy in their journey?**

During the first phase, desk research was conducted in parallel with field research, supporting and building onto each other as needed. After collecting a series of insights, it emerged how certain places, such as schools, play a key role in the development of adolescents. For this reason, secondary research, which will be presented in the second section of this thesis, was conducted to analyze the role of schools as promoters of health and how to work

in those places to promote well-being. Being in contact with an association it was possible to verify the insights that emerged from the research and it was possible to elaborate on the possible involvement of actors. After an interview with the health prevention department and Cinzia Vivori, the head of the department occupied in organizing health promotion activities, became apparent the aspect of working around a whole school approach, working in contact with students and working on developing critical thinking. She further led the way in understanding policies and highlighting the possibilities of interventions in the current system.

CHAPTER TWO

Background research

Background research

2.1 Introduction

The chapter describes the effects and the main changes that COVID-19 has caused in adolescents with eating disorders. The analysis aims to delve into the reasons behind the impact of eating disorders on adolescents. Its primary objective is to comprehend the implications young people face, which subsequently contribute to the development of these disorders. The overview frames some barriers, such as less awareness of difficulties in finding support and understanding the complexity of eating disorders. In this chapter, we are going to answer the following questions::

- What are eating disorders, and which are mainly developed?
- Which are the data before and post-COVID? What led them to increase?
- What is happening in the international and national (Italian) systems?

2.2 What are eating disorders?

Eating disorders are serious and potentially life-threatening mental health conditions that are characterized by abnormal eating habits and attitudes toward food, weight, and body image (Brytek-Matera et al. 2017). These disorders typically involve a disturbance in the individual's perception of their body weight or shape and may result in significant physical, psychological, and social impairments (Blodgett et al., 2015). Indeed, eating disorders have a particular impact on both the physical and psychological development of children and adolescents (Hornberg et al., 2021; Allison et al., 2021), turning out to be a key issue for development and growth.

The Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5) describes and categorizes eating disorders (American Psychiatric Association, 2013), highlighting behavioral aspects:

Anorexia nervosa

Which consists of the focus on everything related to food and nutrition, all its aspects, there is an intense fear of gaining weight bringing an altered perception of the body's weight with a persistent lack of knowledge about the seriousness of the one's low weight body;

Bulimia nervosa

Consists in repeated episodes of binge eating, which consist in eating an amount of food that is visually greater than what is needed from the body, connected with the perception of not being able to control themselves. Self-value is over-influenced by weight and shape, usually inducing vomiting and practicing excessive exercise;

Binge-eating disorders

Usually, they include eating more quickly than normal, eating a large amount of food when not hungry, and also eating alone because of the embarrassment of being seen eating more than what was expected so that to feel guilty and depressed afterward

Avoidant/restrictive food intake disorder (ARFID)

Which consists of a lack of interest in eating food because of the unpleasant consequences of eating, one is not satisfied, experiencing failure in achieving an expected growth goal.

Others

Other specified feeding or eating disorders, like atypical AN, BN (of low frequency and/or limited duration), BED (of low frequency and/or limited duration), and purging disorders which consist in the absence of binge eating in a recurrent behavior of self-inducing vomiting with the intent

of influencing body shapes.

The disorders explained below are the ones that are the most likely to develop both in a psychiatric and pediatric setting (Mairs et al,2016). In particular, these disorders represent an important public health issue since they appear to be constantly increasing (Piattaforma Disturbi Alimentari, 2022).

2.2.1 Factors that increased eating disorders

The pandemic has created a global environment that is likely to intensify the risk and symptoms of eating disorders while also exacerbating the obstacles to obtaining proper care (Edwards, 2021). As demonstrated in the figure below (FIG.01), there are several pathways through which this risk has increased. The disruption of daily routines caused by suspending schools, offices, and all related activities has had significant consequences for eating, physical activity, and sleep patterns (Rodgers et al., 2020). Moreover, organizing mealtimes several times a day and spending more time around food have negatively impacted the risk of developing eating disorder behaviors.

In addition, people have been exposed to a media effect during the pandemic, with the increase of media use and exposure to a controversial ideal of body image, extreme sports, and thin bodies. This exposure can increase body dissatisfaction and the risk of developing eating disorders (Shaw et al., 2021).

These factors have created a challenging environment that increases the risk of developing eating disorders. It is essential to recognize these risk factors and address them, including by providing adequate support and resources to individuals at risk or experiencing symptoms of an eating disorder. By doing so, we can work towards reducing the negative impact of the pandemic on eating disorder risk and recovery.

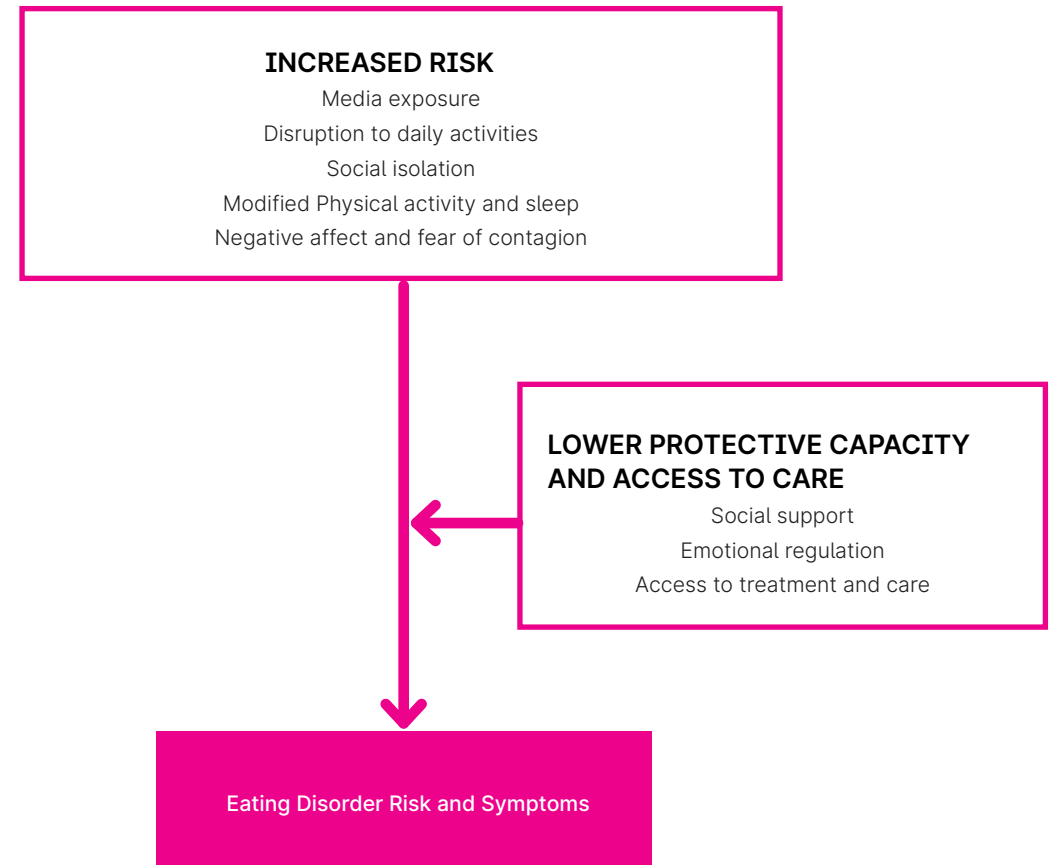


FIG. 01. Summary of the pathways through which the COVID-19 pandemic may increase eating disorder risk and symptoms. Adapted from Rodgers et al., 2020: p. 1167

2.3 Eating disorders and mental health

Eating disorders significantly impact mental health, and these two aspects are closely interconnected. It is widely recognized that eating disorders, such as anorexia nervosa, bulimia nervosa, and binge eating disorder, are all considered to be mental health conditions, as they involve disturbances in one's attitudes and behaviors towards food, weight, and body image (Himmerich et al., 2021). Individuals with eating disorders can experience a range of symptoms that can significantly interfere with their ability to function in their daily lives. These symptoms may include physical health problems and emotional and psychological issues such as depression, anxiety, and low self-esteem. Furthermore, preoccupation with food and weight can lead to social isolation and difficulties with interpersonal relationships (Shaw et al., 2020).

While disordered eating behaviors are often at the root of these symptoms, many associated emotional factors can contribute to the development and maintenance of eating disorders. Trauma, low self-esteem, and perfectionism can all play a role in the development of eating disorders and impact an individual's mental health (Baratak et al., 2023). It is important to recognize that eating disorders are not a choice or lifestyle but serious mental health conditions that require professional treatment (National Institutes of Mental Health, 2022). Effective treatment for eating disorders often involves a multidisciplinary approach that addresses the underlying psychological and emotional issues, as well as the physical symptoms of the disorder. This may include therapy, medication, nutritional counselling, and support from loved ones and peers (Campbell et al., 2014). With proper treatment and support, recovery from an eating disorder is possible, and individuals can go on to live healthy, fulfilling lives (Gulliver et al., 2010).

2.4 The target group most affected by eating disorders: adolescents

Eating disorders can affect individuals of any gender, age, race, ethnicity, socioeconomic status, or background. However, research suggests that eating disorders are more commonly diagnosed in young women, with the highest rates observed among adolescent girls and young adult women (Smink et al., 2014). This vulnerable age group experiences significant changes in their bodies during the

onset of adolescence, which can trigger identity crises, concerns about physical appearance, and societal and sexual expectations (Suarez-Albor et al., 2022). In this supplement, we explore the paradox that emerges during adolescence and early adulthood. Despite this being a period of maximum physical health, there is a substantial increase in mental health problems (Jones, 2013). Factors such as perfectionism and self-imposed high standards can contribute to low self-esteem and a heightened need for external validation (Forbush et al., 2007). Additionally, adults often struggle to understand and support adolescents effectively, further adding to their vulnerability (Birchwood et al., 2013).

Eating disorders are not uncommon among children and teenagers, as nearly 1 in 5 youth between the ages of 11 and 17 display symptoms of disordered eating patterns (Hilbert, 2020). Adolescence is a period of heightened susceptibility to mental health issues like depression and anxiety, which can increase the risk of developing an eating disorder (Smink et al., 2014). Moreover, societal and cultural factors, including the emphasis on thinness and the influence of social media, contribute to the elevated rates of eating disorders among adolescents, with the COVID-19 pandemic further exacerbating the risk (Rodgers et al., 2020).

Addressing eating disorders is a critical global health concern due to their detrimental impact on individual's mental and physical well-being. To comprehend the full extent of these disorders, it is essential to examine their prevalence, consequences, and contributing factors both globally and within specific cultural contexts. By gaining a comprehensive understanding of eating disorders on a broader scale, we can better appreciate the challenges they present across diverse cultural backgrounds.

2.5 Impact of eating disorders outside Italy

Eating disorders are a major public health issue affecting individuals worldwide, and understanding their impact requires examining research not only within a specific country like Italy but also considering case studies from various contexts. By exploring different perspectives,

we can gain a more comprehensive understanding of how eating disorders are addressed and influenced by diverse cultural, social, and healthcare factors. As stated in the introduction, the COVID-19 pandemic has further compounded the problem of eating disorders, leading to an increase in disordered eating behaviors across Europe and North America (Katzmant et al., 2021; Zipfel et al., 2022). While the primary focus of this research is on Italy, looking at global data is essential for a more complete picture of the challenges faced by individuals with eating disorders.

In particular, the United States offers valuable insights due to its extensive collection of data on eating disorders. This is primarily driven by the country's history of high rates of obesity, struggles with establishing a healthy diet, and the prevalence of fast food culture (Taquet et al., 2021). By examining the U.S. context, we can gain insights into the factors that contribute to the development and exacerbation of eating disorders and apply these findings to the Italian context. Research conducted in the United States has shown that the increased risk of eating disorders during the pandemic is predominantly observed among females (FIG.02(b)), with the highest prevalence among adolescents aged 10 to 19 (FIG.02(c)). Anorexia nervosa has emerged as the most frequently diagnosed eating disorder during this period, highlighting its significant impact on this vulnerable age group (Agostino et al., 2021). Understanding these trends helps identify specific populations that require targeted interventions and support.

To gain a broader perspective on the global impact of the pandemic on eating disorders, a systematic review process was employed to examine the relevant literature. A study encompassing various European regions (Gilsbach et al., 2022) found that women and young people experienced heightened concerns about body image and faced increased challenges in controlling their eating habits (Corno et al., 2022; Rodgers et al., 2023). These factors, compounded by the stress and uncertainty brought about by the pandemic, contributed to a higher risk of worsening eating disorder symptoms.

To provide a more contextually similar comparison, a study conducted in France was selected. France's cultural

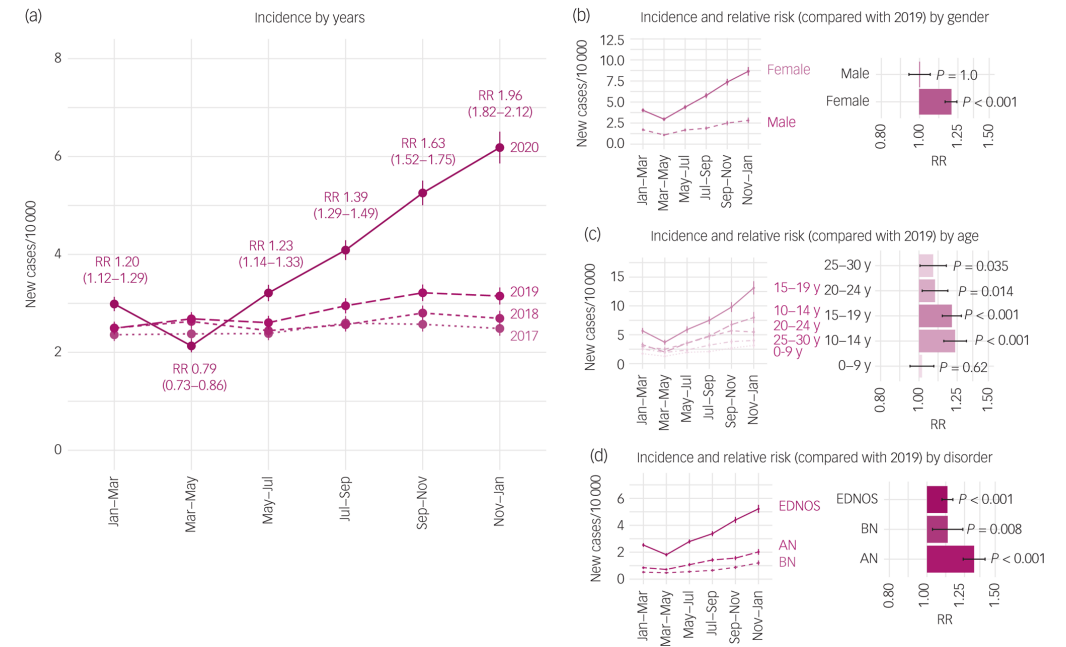


FIG. 02. Incidence of eating disorders during versus before the covid-19 pandemic. Taquet et al., 2020: p. 263

proximity to Italy, similar pandemic management strategies, and a public health system mirroring the Italian system make it a relevant case study (Chauvet-Gelier et al., 2022). The study investigated hospitalizations with a diagnosis of anorexia nervosa during the 21-month period following the onset of the pandemic compared to the 21 months preceding it. The results indicated a notable 20% increase in hospitalizations for anorexia nervosa, with a significant rise of 45.9% among girls aged 10 to 19. This study highlights the potential exacerbation of eating disorder behaviors during the pandemic and emphasizes the need for targeted interventions to address this concerning trend.

2.6 The Italian Scenario

While the global picture provides valuable insights into the magnitude and patterns of eating disorders, it is crucial to zoom in on specific regions to gain a deeper understanding of localized experiences. Therefore, this chapter will subsequently narrow its focus to the Italian context, acknowledging the impact of eating disorders within this specific setting.

A white report of the Italian Istituto Superiore di Sanità on promoting child mental health has gathered scientific evidence on the increase of eating disorders in Italy. However, it is evident that certain groups, including children and adolescents, are at risk of physical and mental harm due to stress-inducing factors such as prolonged isolation in the home, school closures, and limited social interaction with peers (ISS, 2020).

People answered these kinds of measures in different ways, but what is evident from the literature is that people with pre-existing mental disorders were probably more vulnerable to the restrictions imposed in terms of developing new symptoms or worsening of specific psychological conditions (Castellini et al., 2021; AED Archive, 2021). As stated in the study, people felt more anxious and depressed, but they had fewer thoughts of paranoia and sensitivity toward others. This shows that the impact of the lockdown on mental health varied from person to person and that those with existing mental health issues were more affected. In Italy, there was a clear reduction in outpatient visits; inpatient treatments were taken only for severe cases, leaving the struggling people even more isolated.

Different explanations have been suggested for the worsening of symptoms. On one side, there was the effect of the media (Muth et al., 2022), which was over-informing households about the COVID-19 data. On the other hand, if the utilization of social media platforms could lead to an increased awareness of body image, it might also have a toxic impact on the individual's perception of themselves. This can result in young people being influenced to promote skinny body types, which can harm their physical and mental health (Iacobucci, 2022).

A study conducted by Castellini et al. (2021) examined the impact of the COVID-19 pandemic on eating disorders in

Italy. The study included a sample of 34 patients diagnosed with anorexia nervosa and bulimia nervosa, as well as 97 healthy controls (HC). By comparing the responses of both groups, the researchers were able to assess the effects of various factors on the development and progression of eating disorders. What is shown in the study is that people with eating disorders already develop more irritability and fear for the safety of their loved ones. It is also shown that more problems were associated not only with the post-covid stress but also with cohabitation with the family, which was unusual and something never experienced before (Castellini, 2020). The vision of media also enlarged food insecurity, and the excessive use of social media has enlarged the awareness of the body, negatively impacting most vulnerable people, such as children and adolescents.

2.7 Organizational model for the management of eating disorders

In the previous chapter, it is examined the alarming increase in the prevalence of eating disorders in Italy, particularly in light of the pandemic. Furthermore, while gaining an understanding of the problem is crucial, it is equally important to explore how eating disorders are currently being managed and the actions taken to prevent and intervene in these situations.

This chapter aims to delve deeper into the topic by analyzing the current approaches and strategies employed in the management of eating disorders in Italy. By examining the latest research and practices (Della Grave, 2017), it is the intention to seek the advancements made in providing effective care, support, and treatment for individuals with eating disorders. Furthermore, we will explore the preventive measures and interventions that have been implemented to address these problems at various levels, including societal, educational, and healthcare settings.

By investigating the present state of eating disorder management and prevention efforts, the goal is to gain valuable insights into the progress made in tackling this significant public health issue. These insights can serve as a foundation for developing and refining strategies to mitigate the impact of eating disorders on individuals and society as a whole.

The organizational model of intervention for eating disorders depends on the type and severity of the disorder. However, in general, the organizational intervention models for eating disorders involve a multidisciplinary approach as shown in **TAB.01**, involving professionals from different specialist areas, including psychiatrists, psychologists, dieticians, occupational therapists, and physicians (De Virgilio et al., 2005). As shown below, the therapeutic process includes various figures dealing with different aspects.

While the individual suffering from the disorder is the central figure, it is important to recognize that the pathway of eating disorders includes other stakeholders as well. These may include family members, friends, and

			Who takes care of it?
The diagnostic-therapeutic-rehabilitation pathway must include	psychological and psychopathological aspects	Is concerned with the study of mental disorders and related pathologies	Psychiatrist and psychologist
	clinical nutritional aspects	Everything that is connected to the nutrition	Dietician, Clinical nutritionist
	metabolic and physical aspects	The physical aspect and way of the general intake	A clinician who deals with the nutritional rehabilitation (General practitioner)
	socio-environmental aspects	Aspects related to the relationship with other people, places, services	Staff trained on Eating disorders

TAB. 01. Professionals involved in the treatment of eating disorders. Elaborated from De Virgilio et al., 2005

associations that play a significant role in the individual's life. Family and friends can tremendously impact the individual's recovery journey, providing emotional support and helping to create a positive environment that encourages healthy behaviors. Associations and support groups can provide valuable resources, education, and advocacy for individuals with eating disorders and their families. Thus, it is crucial to involve these stakeholders in treating and managing eating disorders to support the individual's long-term recovery and well-being.

2.7.1 Levels of interventions: a multidisciplinary approach

Intervening in the pathways for eating disorders involves a range of approaches, spanning from prevention strategies to comprehensive treatment options. Recognizing the complexity of these disorders and their multifaceted nature, addressing them requires a comprehensive and multifaceted approach. Indeed there are different levels of intervention **FIG.03**.

The Italian Ministry of Health divides interventions into five different levels (Donini et al., 2010; Ministero della Salute, 2013), but the interventions go further from the clinical level, the main steps can be defined as:

Prevention

This level of intervention focuses on promoting healthy eating habits and body image, as well as identifying and addressing risk factors that may lead to the development of an eating disorder. Prevention efforts may include educational programs, media campaigns, and community outreach.

Early intervention

This level of intervention aims to identify and treat eating disorders in their early stages before they become more severe. Early intervention may involve screening and assessment, psychotherapy, and nutritional counselling.

Outpatient treatment

This level of intervention involves ongoing treatment for individuals with eating disorders who do not require hospitalization. Outpatient treatment may include individual or group therapy, nutritional counselling, and medical monitoring.

Intensive outpatient or partial hospitalization

This level of intervention provides more intensive treatment for individuals with eating disorders who require more support than outpatient treatment can provide but do not require hospitalization. Intensive outpatient or partial hospitalization may involve daily or near-daily treatment for several hours per day.

Inpatient treatment

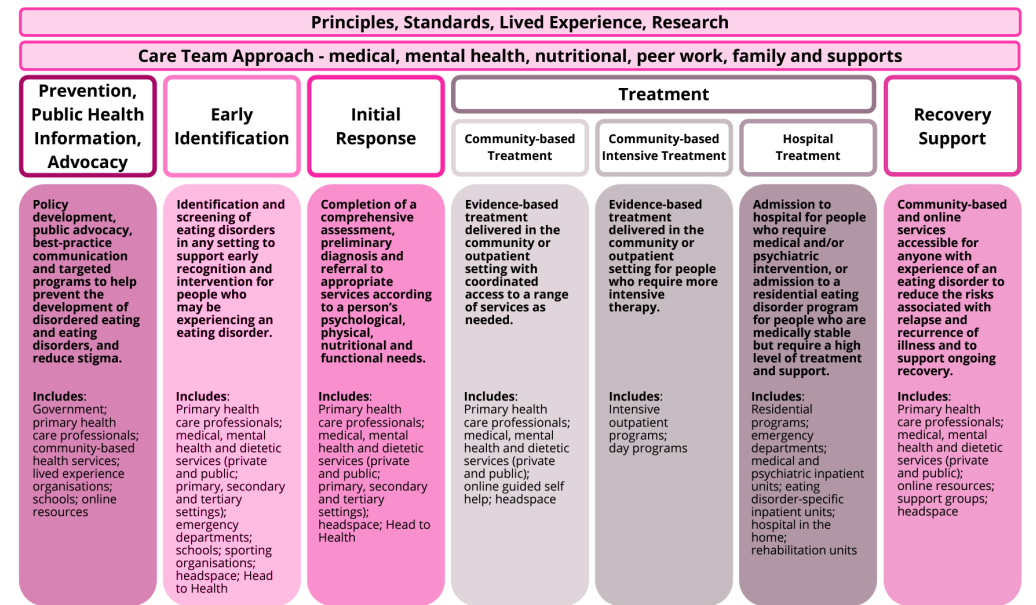
This level of intervention provides 24-hour medical and psychiatric care for individuals with eating disorders who are medically unstable or who require intensive treatment. Inpatient treatment may involve re feeding, medical monitoring, individual and group therapy, and medication management.

Residential treatment

This level of intervention provides a structured environment for individuals with eating disorders who require ongoing support but do not require hospitalization. Residential treatment may involve daily therapy, nutritional counselling, and medical monitoring.

Recovery support

This may involve community-based and online services accessible for anyone with experience of an eating disorder to reduce the risks associated with relapse and recurrence of illness and to support ongoing recovery. They involve regular check-ins, counselling sessions, support groups, and access to resources for continued support.



(NEDC, 2022)

FIG. 03. System of care for eating disorders. NED, 2022

In general, there are different pathways as the disease worsens, thus involving different figures at different stages. Prevention, screening, early diagnosis, physical risk assessment, referral to specialist centers, treatment of mild cases, and follow-up are crucial to managing eating disorders. The general practitioner or primary care paediatrician plays a significant role in fulfilling these responsibilities, thus resulting in one of the first figures to come in contact with (Volpe et al., 2019).

Throughout the treatment process for eating disorders, users must receive interventions from both clinical and psychological perspectives. As such, a team of professionals consisting of psychiatrists, nurses, psychologists, nutritionists, pediatricians, and other specialists must be involved. Additionally, the support of psychologists, educators, family members, and friends is equally important in ensuring effective treatment.

2.7.2 How contact with institutions occurs

Eating Disorders are very complex pathologies, somewhere between psychiatry and internal medicine and between body and soul. They are real mental illnesses with physical consequences. Their treatment would require a systematic organization on the territory with targeted health services according to the evolution and stages of the disease (Della Grave, 2017). The care model operates on two tracks (Ministero della salute, 2013). The first is the vertical one, which envisages different layers according to the level of seriousness that the patient presents; the second is the horizontal one, which interconnects the specialist facilities scattered throughout the territory, to create a network of professionals in this field.

Such a system must rely on a perfect information flow based on the multidisciplinary of the figures involved. This means that each team member (typically psychiatrist/psychologist, nurses, nutritionists, and internal medicine physicians) must possess all the clinical information concerning the patient, including drugs being administered and/or administered, as well as any previous treatments. We are talking about an ideal structure which, in reality, comes up against obvious difficulties, first and foremost, the sharing of information (Della Grave, 2017; Volpe et al., 2019).

As we have seen above, there are different stages of intervention. The first level is fundamental, above all, for the early detection of an eating disorder; the general practitioner is the main figure, capable of intercepting the symptoms and directing them toward subsequent treatment.

Due to the complex nature of eating disorders, mental health services are usually the primary resource for their treatment. It was taken in consideration a study (Volpe et al., 2019) that analyze different care pathways; the routes taken by participants seeking mental healthcare were combined in a Pathway Diagram, which describes the steps needed to care, highlighting the figures to whom patients refer (FIG.04). As general practitioners constituted the main point of access to specialist care for, it has to be noted that only a minority of the cases (26% of the patients seen by them) were then directly sent to a specialist care setting. Patients often seek support from other figures, such as the nutritionist or the psychologist.

Generally speaking, the study shows how there is no linear access to the care pathway and how each person

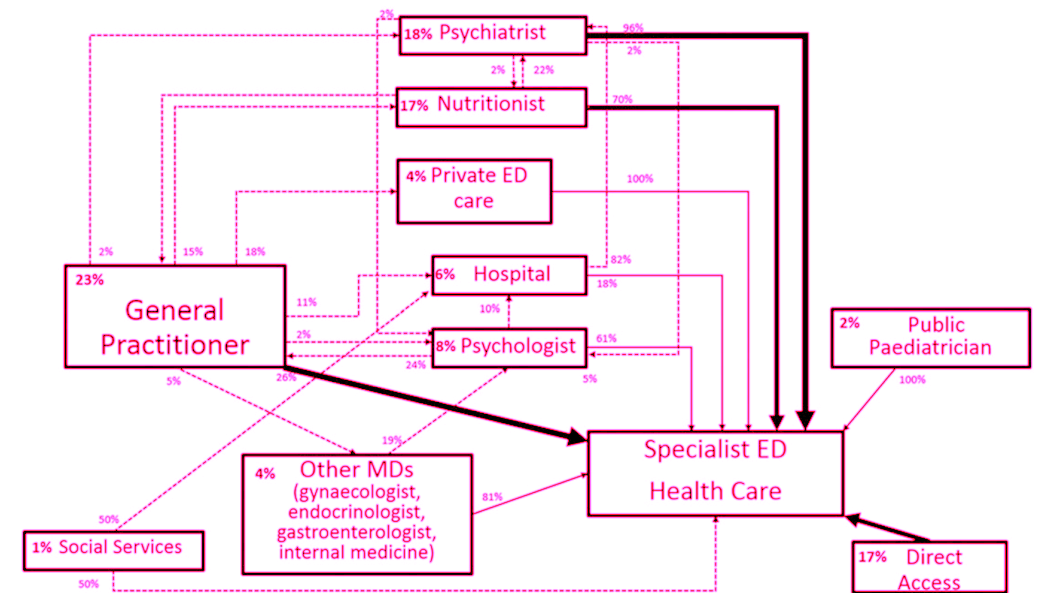


FIG. 04. The "Pathways Diagram". Volpe et al., 2019: p.278

experiences a different pathway while emphasizing the importance of not underestimating signatories and referrals to care centers.

2.8 Adolescents' help-seeking behavior

As we saw in the previous chapter, people follow different paths when looking for help, and there is no single, linear pathway. A common threat is that many people turn out to be stuck in the very initial step and thus seek help (Leavey et al., 2011). Failing to attend appointments and engage with healthcare services can have costly consequences for patients. This may result in delays in receiving appropriate treatment, leading to unnecessary suffering and discomfort for the individual. There are, however, different reasons why individuals with eating disorders do not seek help. Studies (Ali et al., 2017; Barker, 2007) have shown that individuals with eating disorders often have poor mental

health literacy. They may not fully recognize the severity of their illness and have limited knowledge about the disorder and available resources. Indeed, adolescents' good health and relatively low utilization of healthcare services highlight the importance of emphasizing social support beyond professional caregiving environments (Barker, 2005). As stated in the study, this can not only be perceived by individuals with the disorder but also by the general public as a lifestyle choice rather than a severe mental illness requiring professional help.

Individuals do not often feel they have a problem and do not believe that their symptoms require treatment (Ali et al., 2017; Craig et al., 2019). Their belief, combined with poor information, may cause even more delay in accessing treatment.

It is also necessary to state that young people are reluctant to seek help for others' mental health problems (Barker et al., 2005), and different studies have tried to evaluate the potential reasons for this lack of help-seeking. To further understand the most common obstacles, the systematic review written by Ali (2017) takes into consideration different studies around the world in detail and identifies the perceived barriers and facilitators towards looking for help, collecting them into subcategories.

1. Stigma and shame are often the first barriers when seeking help, and they are often correlated with other mental health issues. Studies have specifically reported that individuals with eating disorders are more likely to be perceived as using their illness for attention-seeking purposes and to be blamed for their disorder, enhancing even more the lack of recognition of the problem as a serious mental illness.
2. Denial and Failure to Perceive the Severity of the Illness: several individuals do not consider their eating behavior problematic; furthermore, people developing eating disorders tend to compare with others and believe others' symptoms are more severe than their own. There is a common lack of understanding of the severity of the illness and its symptoms. Previous reviews and large survey studies conducted in the US, Canada, and the

Netherlands (Gulliver et al., 2010; Sareen et al., 2007) have indicated that individuals with mental health problems often prefer to rely on themselves rather than seek professional help. This finding may be attributed to a lack of insight into the problem.

3. Practical barriers: the cost of treatment, transportation issues, and lack of time have been identified as practical factors that can hinder access to treatment and, therefore, pose a significant barrier to help-seeking.
4. Fear of Losing Control Over the Illness and Fear of Change: The study participants reported that their eating disorder was a significant aspect of their identity and provided them with a sense of control, which negatively impacted their help-seeking behavior.
5. Negative Attitudes Towards Professional Treatment/ Perceived Insufficiencies of Professional Help: There is a lack of trust in professionals, such as the general practitioner (Volpe et al., 2019), which impedes people from looking for help.
6. Lack of support from others: individuals experience a lack of family support, a lack of understanding from peers, and the unwillingness of others to provide help. Not feeling that there was anyone able to help them. Related to this, it became evident that social support could facilitate help-seeking, where encouragement from others represents a valuable supportive medium. Therefore, the establishment and implementation of many supporting associations.
7. Knowledge of resources: the participants in the current review stated that not knowing where to seek help and the various available treatment types prevented them from seeking help for their eating problems.

To promote help-seeking behavior among young people, it is crucial to focus not only on their specific health needs and problems but also on their normative needs. Building

trust, changing adult attitudes towards young people, and reducing the stigma associated with seeking help are key to achieving this. Therefore, future initiatives aimed at promoting help-seeking behavior and enhancing social support must consider these structural barriers and make special efforts to reach and work with excluded populations.

2.8.1 Factors that facilitate help-seeking in adolescents

As shown earlier in the literature, there is much knowledge regarding what prevents individuals from seeking help, and relatively few studies have explored the facilitators of help-seeking for mental health problems or eating disorders. Earlier evaluations have revealed that seeking help is facilitated by positive past experiences, emotional competence, social support, encouragement from others, knowledge, positive attitudes towards professional help-seeking, access to treatment, and trustworthy relationships with professionals (Ali et al., 2017). Some evidence suggests that positive past experiences can enhance mental health literacy (Gulliver et al., 2010), leading to greater awareness and understanding of the importance of seeking help for mental health concerns.

Moreover, recent studies suggest that other factors may facilitate help-seeking among young adults. For instance, a supportive family environment, positive coping mechanisms, and engagement in meaningful activities, such as volunteering or participating in community events, can all contribute to a sense of well-being and reduce the likelihood of experiencing mental health problems (Oliver et al., 2006; Duffy, 2021).

Despite these facilitators, young adults face challenges when seeking help for mental health concerns. Stigma remains a significant barrier to seeking support, and many individuals may not know where to turn to find appropriate resources. Addressing these challenges requires a concerted effort from policymakers, healthcare professionals, and the broader community to create a culture that values mental health and prioritizes access to resources and support. By creating a supportive and accepting environment, we can empower young adults to seek help to maintain their mental health and well-being.

2.7.1 Initiatives to promote adolescent help-seeking

“Engaging adolescents in health-related issues via the school setting is widely reported as a fundamental strategy for improving adolescent health and attracting adolescents to existing health services.”

(Barker, 2007: p. 20)

Strategies have been explored in diverse settings to render healthcare services more accessible to the adolescent population. Such measures include employing and training peer promoters to engage with youth, developing services that specifically cater to adolescents, and working collaboratively with adolescents to encourage greater utilization of healthcare services. Additionally, in numerous countries, establishing networks among existing healthcare services has been adopted to promote help-seeking behavior among adolescents. The primary objective of such an approach is to create multiple entry points for young people and foster wider collaboration among networks to assist adolescents better. (Birchwood et al., 2013).

A World Bank document highlighted several key characteristics of these efforts, including (FIG.05): modifying existing services by increasing access, changing location or hours, and enhancing content and activities for youth; creating new primary and/or specialized services; enhancing staff through staff training and creating new staff positions; and improving connections between specialized and primary services (WHO, 2021). Above promoting adolescent-friendly services, the goal is to promote intervention and stimulate the creation of safe and supportive communities.

2.9 Conclusions

According to preliminary research, the COVID pandemic has negatively impacted the development and recovery of eating disorders. The constant exposure to mass media has increased people's awareness of their bodies, especially in the younger population, leading to a rise in eating disorders. Indeed, eating disorders increased mainly among people between 10 and 19 years old. The prevalence of eating disorders in this age group is a cause for concern, as it can lead to severe health consequences, including malnutrition, organ damage, and even death. Furthermore, young individuals struggling with eating disorders often face stigma, shame, and isolation, which can further worsen their condition.

Various measures can be taken to address this issue, such as providing access to psychological and medical support and promoting healthy body image and self-esteem. The main gaps are a lack of information and awareness, disorientation, and inaccuracy in identifying the problem and the specialists to turn to. It is also essential to involve parents, educators, and healthcare professionals to ensure a comprehensive and multidisciplinary approach to tackling eating disorders in young people. Adolescents face multiple challenges in accessing healthcare services, while certain factors can facilitate their help-seeking behavior. For instance, the presence of social support and the establishment of supportive communities can ease the process of seeking help for young people.

Building upon the preliminary research presented in the chapter, the next steps in this research aim to analyze the roles of different figures around adolescents and understand how the supportive community is composed. This includes examining the spaces and relationships within the adolescent's social environment, such as family, peers, educators, associations, and healthcare professionals.

To gain a deeper understanding of the limitations and possibilities for intervention in the current system, the research will rely on interviews and testimonies from individuals with eating disorders, their families, and healthcare professionals. By exploring their perspectives and experiences, the research will provide insights into the challenges individuals face. It will also identify areas for improvement in the existing healthcare system to better address the needs of these individuals.

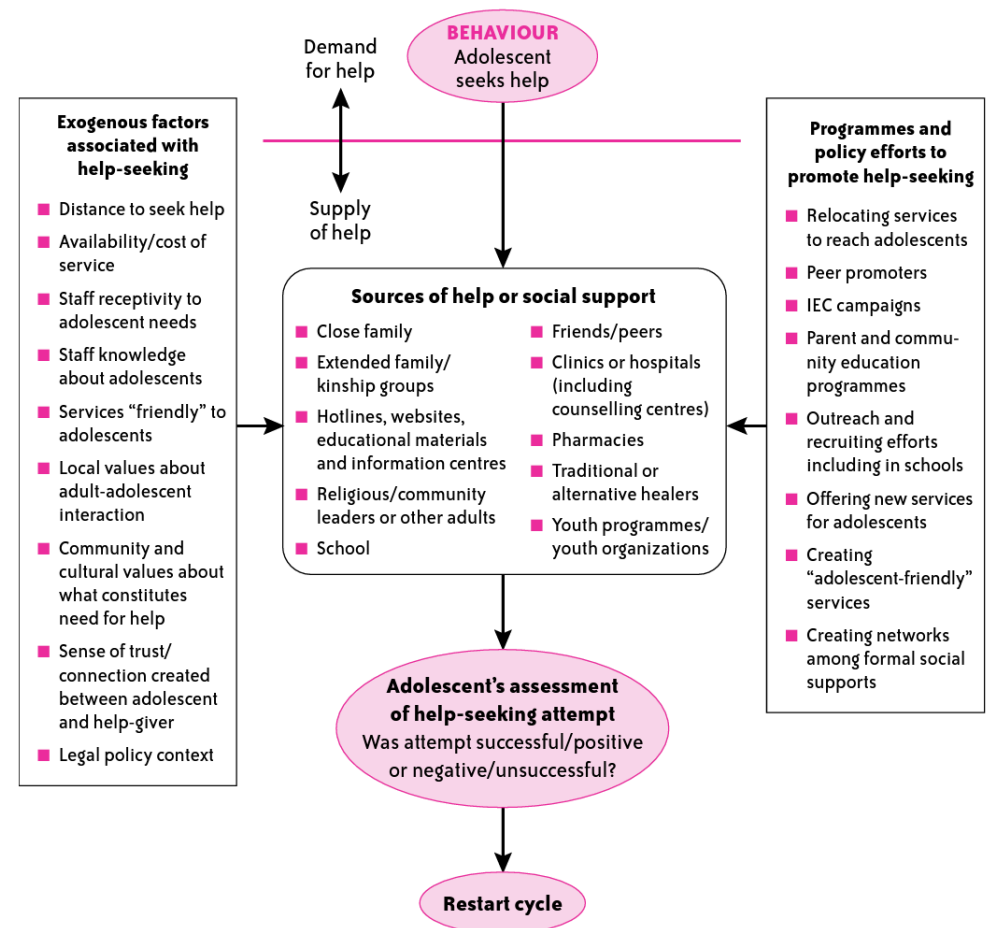


FIG. 05. Proposed schema for adolescent help-seeking. Barker et al., 2007: p.36

Eating
disorders
pathways in
Italy

Eating disorder pathways in Italy

3.1 Intro

When confronted with the emergence of an eating disorder, young individuals often embark on a complex and challenging journey in search of help and support. This chapter aims to provide an insightful exploration of the path that youth and families traverse. By understanding the actions and decisions taken during this critical period, we can better comprehend the factors that shape their help-seeking behaviors and inform interventions for timely support.

As an eating disorder begins to develop, young individuals may find themselves grappling with a multitude of emotions, confusion, and internal struggles. The initial stages of recognition and acknowledgment of their disordered eating behaviors can be fraught with ambivalence, denial, and a sense of shame. Understanding these internal dynamics is crucial in comprehending the subsequent actions they take in seeking assistance. The path to help for individuals with developing eating disorders often involves a series of steps influenced by a combination of personal, social, and environmental factors. This chapter explores the decision-making processes that young individuals undergo when determining the appropriate course of action. Factors such as stigma, fear of judgment, and a desire to maintain control over their behaviors can influence their hesitancy or reluctance to seek formal assistance.

3.2 The user's journey

The user's journey can vary depending on several factors, the type of illness, the kind of approach to help, and insecurity. Patients and families experience a dark period in

a general situation caused by a lack of culture on the subject and little social attention (Ali et al., 2017). As preliminary research has shown, eating disorders are illnesses caused by many factors, and they need a multidisciplinary approach made up of different figures who welcome and treat the sufferer without forgetting the community around them. In order to provide a comprehensive understanding of the intricate pathways that users typically encounter, a significant amount of research was conducted for this thesis. However, given the scope of the project, the aim was to present a concise overview of the key stages that are typically addressed, which would identify a point where design interventions can make a significant difference. To gain a deeper understanding of the challenges faced by users, extensive research was conducted, which included consulting various blogs and books that collect testimonies from relatives and family members. It was decided to synthesize the three main steps in a so long and difficult journey by defining which are the main challenges.

The initial critical phase is the pre-discovery stage, which involves recognizing the need for assistance. This stage marks the first step towards recovery from an eating disorder. It encompasses activities such as acquiring information to surmount impediments to seeking help, comprehending why individuals may be reluctant to ask for assistance, identifying suitable professionals to consult, and acknowledging the significant role that general practitioners play in the recovery process.

The second stage that was identified involved initiating therapy by making contact with professionals and beginning to discover the recovery process, which required the intervention of a multidisciplinary team, composed of the general practitioner, psychologist, nutritionist, and other healthcare figures.

The final stage identified was the culmination of the recovery process, characterized by a return to mental and physical stability. However, this stage is also delicate, as it can be easy to fall back into old patterns and behaviors. Therefore, it is important to approach this stage with care and attention.

3.2.1 Testimonials patients and parents

By researching and gaining knowledge from people sharing their stories online, it was possible to rebuild some paths highlighting the challenges encountered **TAB.02**. Testimonials of people and parents with eating disorders can provide valuable insights into their experiences and challenges in seeking help for their conditions. These accounts often reveal the complex and multi-faceted nature of eating disorders and how they can impact the individual with the disorder and their loved ones. It was important to discover their stories because it helped, on one hand, to raise awareness about the reality of these conditions. On the other hand, to understand the complexity and discover the urgent need for effective treatment and support. Furthermore, their testimonials can also shed light on the barriers that hinder help-seeking behavior, such as stigma, shame, and lack of knowledge about available resources. Ultimately, learning from these experiences, it was possible to better understand where it could be possible to understand where service design practices can be taken into account to take action, understanding how healthcare professionals and policymakers can improve their efforts to support individuals and families affected by eating disorders.

	PREDISCOVERY		STARTING TO LOOK FOR HELP
Laura (user)	Disorder is concealed, one does not want to ask for help for fear of not being understood	The disorder begins to show itself physically	A decision is made to ask for help
Rafaella e Tomaso (parents)	You start to see that the disorder is manifesting and you don't know how to act on it	A decision is made to push the youngs to visit the general practitioner	General practitioner refers to a psychiatrist
Chiara (user)	Fear of asking an adult for help because one is afraid of not being understood	You look for online help where you can find support	you find an online community where you are directed to a network of services

3.2.2 Key points

A common pattern that emerges is the difficulty in asking for help, which occurs at the points of access to care or the pre-discovery stage.

From the patient's point of view, stigma and shame associated with eating disorders can prevent them from seeking help. They may also struggle to understand their illness's severity, and the available treatment resources (Regan et al., 2017). On the other hand, the healthcare system may not adequately address the needs of the young, making it difficult for young people to approach services and not recognize the figure of the general practitioner (Ali et al., 2017; Ruocco et al., 2018). There may also be barriers related to cost, transportation, and lack of time that hinder access to treatment. To overcome these challenges, a collaborative effort is required between healthcare professionals, policymakers, and the community to promote awareness, reduce stigma, and provide adequate support for those affected by eating disorders. Therefore, it is crucial to analyze which figures revolve around the adolescent, what kind of relationships they have which places are the most frequented and play a key role in the adolescent's development.

TAB. 02. Reconstruction of the paths taken.

	THERAPY - FOLLOW UP		PAIN POINTS
One turns to a nutritionist thinking that the problem is a nutritional one	Therapy is followed but without psychological support it is not easy to follow it	The disorder is only partially treated and it is easy to relapse	It is difficult to get in contact with the right professional (waste of time and money)
It is not always clear the link between the various figures and in what way as parents you can support You take contact with the figures and decide to start the therapy	You embark on the treatment pathway and turn to an association to act as a support for each other One goes to a center and embarks on a therapeutic journey	Therapy is ended and physical and mental balance is restored Therapy is ended and physical and mental balance is restored	Poor link with the healthcare institutions that might help, sometimes inadequate knowledge by the GP When asking for help people find it difficult to recognize the problem, for young people is difficult to approach services, they don't communicate to youngs

3.3 System of actors around the Adolescent

In addition to the clinical professionals involved in the treatment of eating disorders, other non-clinical figures play a vital role in the patient's recovery process and it is well-known how the orientation of therapeutic practices is now shifting from focusing on the treatment of the disease to the promotion of wellbeing (Sangiorgi, 2020).

For this reason, for the research of this thesis, it was decided to analyze which figures revolve around teenagers elaborated a map with the knowledge gained from the previous research (FIG.06).

The first level, named family, consists of that set of relations that are in close contact with the adolescent and with whom he/she, therefore, has a direct relationship, these are the figures to whom the user or family members first turn when there is the onset of an eating disorder. These consist of the family, the general practitioner, the teachers at school, the psychologist, or the nutritionist.

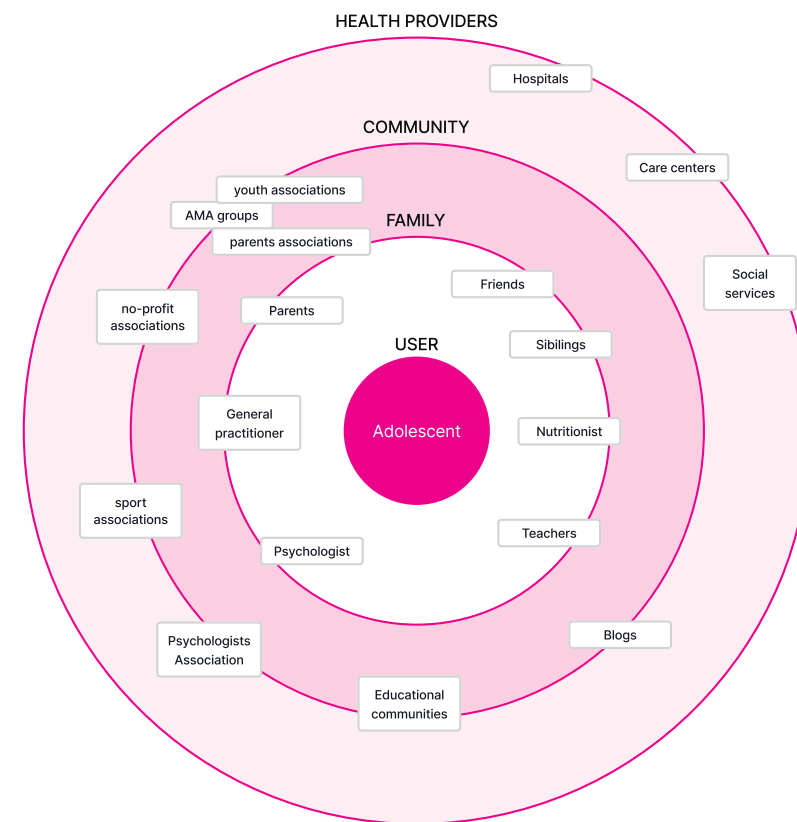
On the second level is the community, which follows the concept of community based-care, including all the actors that foster people's engagement outside institutional settings (hospitals) (De Luca & Sangiorgi, 2022). At this level, there are all those figures that people refer to in search of emotional support and support regarding the path to take and the figures to refer to. Most of these stakeholders are in relation to the figures of the first level and can come also in contact with health providers. They consist of all those support associations, such as self-help groups, associations dedicated to supporting eating disorders, sports associations, and psychologist associations up to blogs and online forums.

On the third level are the health providers, which consist at the organizational level with all the formal actors like institutional settings. All the professionals provide medical care and services to patients, including hospitals and care centers where a team of doctors takes care of the users from all points of view.

In order to further advance this research, the upcoming phase is dedicated to a more comprehensive exploration of the critical figures that have emerged. This includes delving deeper into understanding the diverse range

of professionals involved and gaining insights from the perspective of the general practitioner. Additionally, recognizing the value of experiences beyond the clinical level, it will be conducted interviews with associations exploring their role and expertise. The primary objective of this next phase is to gain a more profound understanding of the key figures that shape the professional landscape, this is because it emerged the difficulties in reaching the right professional so is necessary to understand which figures are involved and how. As it emerged from testimonies a crucial focal point is the role of the general practitioner, which should provide guidance in further steps of the journey so it is aimed to get its direct point of view to better understand its challenges. And lastly interviewing some associations to understand the relationships built with the professionals and gaining a more comprehensive view of the factors that shape the success and effectiveness.

FIG. 06. Map of people that revolve around the adolescent when seeking health-related help



3.3.1 Professional figures

This chapter wants to focus on the figures involved at the clinical level to understand their role and involvement in adolescents. Eating disorders are intricate conditions that necessitate the management of a multidisciplinary team capable of conducting a comprehensive diagnostic assessment from various dimensions, including psychiatric, psychological, internist, and nutritional aspects.

To achieve this, a specialized multi-professional team is necessary, whose composition may vary depending on the local resources, intervention intensity, and clinical center experience. The team should include a combination of professionals such as psychiatrists, internists/nutritionists, psychologists, dietitians/nutritionists, physical therapists, educators, psychiatric rehabilitation technicians, and nurses, as recommended by De Virgilio et al. (2012) and the Ministry of Health (2013). The assessment of individuals with eating disorders involves various elements requiring different professional figures' expertise. As illustrated in the tables below, the general practitioner is crucial in the intervention, serving as the first point of contact and directing individuals to further treatment. Other essential figures include those responsible for addressing the body's needs, such as nutritionists and physical therapists, and those who address mental health needs, such as psychiatrists and psychologists.

Moreover, these healthcare professionals work in conjunction with other sources of support, including additional psychologists, educators, technicians, family members, and peers, to ensure a comprehensive approach to treatment. The involvement of a multidisciplinary team is essential to provide individuals with the resources and support they need to overcome their eating disorders and achieve lasting recovery. By working together and utilizing a range of expertise and resources, the treatment team can help individuals address their eating disorder's complex physical and psychological components and achieve a healthy and fulfilling life.

3.3.2 Dietitian, dietician and nutritionist

During the research, it was found that the dietician, dietitian, and nutritionist are often referred to in the pathway. Therefore, it turned out to be crucial to understand the difference in the roles of these figures and their tasks (Pomarico, 2014). These figures differ first and foremost in the different educational backgrounds they have pursued having thus received different skills and academic training, despite the fact that they all work in the field of nutrition. Drawing upon Dr. Anna Pomarico's extensive experience and expertise, she provided a comprehensive overview of the factors involved in eating disorders and the critical role of multidisciplinary teams in their effective management. The following information is based on the insights she shared during this conference held in 2014, which continue to inform current understanding and practice in the field of eating disorder management.

A dietitian is a professional with a degree in Dietetics and can specialize further. They can work independently with healthy individuals, process diets prescribed by doctors in clinical nutrition, collaborate in a team to treat eating disorders, and conduct nutrition education activities. However, they cannot make official diagnoses, prescribe medications, or conduct specialized medical examinations. They can only counsel patients for further study under the supervision of a treating physician.

In contrast, a dietician is a medical doctor who has earned a medical degree and specialization in food science. They can diagnose and clinically frame patients and prescribe diets and medications for nutrition-related diseases or disorders. While they have an unparalleled medical background, they are less concerned with personalizing dietary therapies and focus more on the diagnostic pathway and drug treatment.

A nutritionist is a professional with a postgraduate specialization in food science, primarily designed to teach human nutrition to those who have not dealt with it in their previous pathways. Biologists, pharmacists, and occasionally physicians and dietitians have access to this pathway. The specialized nutritionist can analyze food's hygienic and sanitary characteristics, formulate nutritional plans, and conduct nutrition education interventions, including

in schools. However, they are not authorized to make diagnoses or prescribe medications, as these skills are held only by medical graduates and dietitians.

3.3.3 The Role of the general practitioner

The general practitioner and primary care paediatrician can play a crucial role in the eating disorder management network in the early identification of new cases, assessment of associated physical risk, motivational and educational intervention, referral of the patient to a specialist center, and monitoring of the patient during specialist care and follow-up (Ministry of Health, 2013).

Patients with eating disorders frequently consult their general practitioner for a wide range of gastrointestinal, gynecological, and psychological symptoms that, if evaluated carefully, could suggest a diagnosis of an eating disorder (Della Grave, 2017). Early identification of eating disorders is important for improving the patient's prognosis. General practitioners are in a good position to identify patients presenting with early symptoms of an eating disorder. Some screening questionnaires can be helpful, but the physician should also consider the possibility that the patient may have an eating disorder. High-risk groups include adolescents, weight and body shape concerns, menstrual disorders or amenorrhea, dyspeptic symptoms, and psychological problems. Warning signs are significant weight loss, unreasonable fear of gaining weight, adoption of strict dietary rules, mood changes, social isolation, anxiety, and gastrointestinal disorders. Once the suspicion of a possible eating disorder is confirmed, the general practitioner should assess the patient's physical risk through a thorough physical examination and prescription of humoral and instrumental tests, directing the patient to further treatment.

It then emerges clearly what protocols are to be followed; however, the difficulties turn out to be more complex. As highlighted in previous chapters, research shows that there are several factors that slow down help-seeking. Therefore, it was essential to obtain a physician's perspective in order to understand his or her position with respect to his or her intervention in eating disorders and what the critical points are.

3.3.4 General practitioner interview

For the aim of this research it was decided to interview Rita Faccini, a paediatrician with a specialization in child neuropsychiatry for the healthcare company of Trento. During the interview we discussed various topics related to eating disorders in young people, the importance of preventive care and education. Indeed, the goal of the interview was to understand the role of primary care physicians in health education, what health education branches into, and how the topic of nutrition education is also treated. What is the relationship between the primary care physician and young patients and in detail what is the on eating disorders on how treatment takes place.

What she said

As a first element, it was immediately clear how covid led in children and adolescents to the development of relational and neuropsychiatric disorders, particularly also toward the peer group. Young people have begun to isolate themselves more and more, and this attitude has been fostered principally by the use of technological tools, which then can create obsessive attitudes and where the family can no longer set a limit.

The fundamental role of the physician is to educate young people, starting with the parents as early as in childbirth preparation classes. The physician is not in frontal lectures with students but is involved in networking with what are the services available in the area, social services, the school and the family, in order to moderate and reduce this kind of behavior.

As a physician you are often involved in working with schools and social services in order to facilitate relationships, and since the area of Trentino and Val di Sole where you do service is very small, it is easier to maintain the relationship between the different parties. The attitudes of the children are also kept in check through filter visits, where the health status of the children can be seen outside of the sickness office visit.

After the lock down, difficulties emerged in continuing to attend a school where several youngs complained of not being able to sleep and not wanting to eat, in which case a psychological course is undertaken with the developmental psychologist that can be accessed freely but has long waiting periods. Often this type of approach is difficult for

the family to accept. Since this part of Trentino is purely rural, the population has very rigid views, still anchored in the past and where therefore the environment is not adequate, thus being ashamed to expose their problems.

However, the health company has often invested in the development of actions aimed at health education in schools, which, however, have gradually declined due to lack of personnel or for other reasons unclear to it.

KEY INSIGHTS	TESTIMONY	PAIN POINTS
Role of the doctor as an health educator - Importance of health education in schools	My role around health education take place during childbirth preparation courses or when patients come to the studio, I maintain a peaceful attitude and try to educate families. Health education projects in schools have decreased due to lack of personnel.	Health education programs in school were blocked after covid for lack of personnel. Is important to receive health education in schools not only from the doctor.
Youngs looking for informations- Limits of technologies	Children become obsessive users of technological tools and the family no longer imposes any limits	It is difficult to set limits and the family has difficulty imposing limits
	Technological tools also show things that are not suitable for children and it is easy to come into contact with incorrect information (eg. blogproANA)	Young people seek information in other ways and also encounter misinformation (blogproANA)
To prevent behaviours - Importance of a stable network of health, accessible in a small area	I cooperate with schools, families, social services and in necessity with the police forces, as well as sport associations.	The relationships are easy to create. The healthcare system is very careful to create a stable network but it is often not perceived by patients
Difficulties in being accepted	The environment in which young people develop is still very much anchored in the past, the culture is very rigid.	Society still anchored to the past, difficulty for young people to find themselves in an appropriate environment

TAB. 03. Main insight from the interview with the GP.

3.3.5 Overview of associations in Italy and their roles

In the eating disorder pathway, patients interact with several figures who can provide support and guide them towards appropriate treatment.

Associations, in particular, play a fundamental role in helping individuals struggling with eating disorders. They act as facilitators, intervening to make access to services smoother and providing much-needed support to patients and their families. The need for dedicated associations arises from the complexity of recovery interventions for eating disorders. The variety of therapies and the need for a multidisciplinary approach means that public structures may not always be able to meet the needs and requirements of every individual (Ebnetter, 2013). The patient, being in a fragile state, requires the right attention and various non-profit and non-governmental organizations for the treatment of eating disorders have been established to fill this gap. These associations carry out initiatives to raise awareness of eating disorders, provide support groups, organize training sessions, and offer guidance and information to individuals seeking help.

For this research it was mapped out the different realities available in north Italy around eating disorders, it was decided to take in consideration the main ones analysing which kind of activity they carry and to whom they want to speak (TAB.04).

3.3.6 Associations interviewed

It was chosen to make contact with some associations with the aim of learning about the activities carried out by the associations themselves, understanding at what point patients with DCA turn to them and to learn on which pain points they leverage on. To learn more about how projects are developed and why their social support work is important. During the interview we discussed some general information about the association, who is involved, what is their role is, and what goal moves their intervention or what they are trying to achieve. They explained their purposes and showed me their motivation and the goal of their associations. I had the opportunity to interview two of them:

Animenta: an association dedicated to telling the story of eating disorders to create awareness around the topic, they

collaborate with schools to educate around DCA.

TradiNoi: which consists of a chat staffed by young volunteers, with the aim of providing support to young people. It aims to be a way of communicating the services available in the area of Trentino to young people.

ASSOCIATION	DESCRIPTION	CONTEXT
Animenta	The association is dedicated to telling the story of people who experienced eating disorders in order to create awareness around the topic. One of the leading awareness-raising associations	Online - all Italy - sede Roma
Consult@noi	Associations of family members and former patients that have formed to support those suffering from DCA and to combat the stigmas attached to these disorders. Under the association there are other 20	All Italy
Aidap	It aims to spread scientific knowledge about eating and weight disorders.	All Italy - sede Verona
TradiNoi	The association use the peer to peer approach to listen to young people. The goal of the project is to create bridges between institutional and private social needs and resources being a source of listening, information and addressing	Trento
Associazione Auto Mutuo Aiuto	Association that creates meeting spaces to address a problem through peer support methodology	Trento
Arca Trento - Associazione ricerca disturbi comportamento alimentare	Parents' association , meeting point between the private and the public sector	Trento

TARGET	ACTIVITIES OFFERED
Young people and families	<ul style="list-style-type: none"> dissemination on the subject through social media and website awareness-raising activities in schools creation of a community that knows what these diseases are and how one can intervene to help sufferers
Young people and families	<ul style="list-style-type: none"> promotes the sharing of experiences, projects and working methodologies among the various associations promotes the AMA network develops relationships with institutions (to improve places of care)
Families and professionals	<ul style="list-style-type: none"> Information desk (give information to family members about treatment and nearest centers, support) Study groups, do research and experimentation to help increase knowledge of eating disorders and obesity. Courses for professionals
Young people	<ul style="list-style-type: none"> listening chat to provide psychological support, where young people know another young will reply; the goal of the project is to create bridges between institutional and private social needs
Adults, young people, families	<ul style="list-style-type: none"> Realisation of various self-help groups on different topics, for youngs, families, elders Support and training to whom wants to start a ama group
Families	<ul style="list-style-type: none"> Weekly presence to welcome, listen, counsel; Self-help groups for parents and family members; Self-help groups for girls with the presence of a facilitator; informational meetings open to all, either on the premises or in public rooms, held by specialists in the field and covering both medical and psychological aspects;

TAB. 04. Overview of associations in Italy

I had the opportunity to interview Laura, one of the co-founders of an association that provided me with insights into their origins and interventions. The association was founded by Aurora Camporossi, who had first-hand experience with eating disorders. Their goal was to create awareness interventions in schools, sharing stories from those who had lived with the illness to help others understand its complexity and impact.

Eating disorders involve not only one's approach to food but also have a significant social and relational dimension. They can affect self-image and create difficulties at mealtime, as individuals may fear the judgment of others.

The association was established to address the gaps in support that were missing during their own journeys. Laura emphasized that they faced difficulties finding the right professionals and support, leading to a loss of time and money. Indeed the goal of the association is to create awareness around eating disorders preventing people to face errors. All the work is concentrate on working on people's experiences, narrating beyond appearance and where the body is not the focal point. Often the psychological core that leads a person to restrain or overindulge is similar, a sense of inadequacy, low self-esteem, fear of judgment, a need to prove something to someone. Society in fact plays a fundamental role because the messages we perceive influence the way we are. The association's objective is to connect with individuals in need and provide them with helpful support. They accomplish this by creating diverse workshops and interventions in classrooms, as well as utilizing social networks to establish a supportive community and raise awareness.

KEY INSIGHTS	TESTIMONY	PAIN POINTS	OPEN QUESTIONS
Importance of the figures whom to turn	It is often believed that the problem is a nutritional one and so one turns to a nutritionist or dietician	The problem is not purely nutritional, but there is a need for psychological help that is difficult for the patient to perceive.	<ul style="list-style-type: none"> • Why is difficult to get in touch with a professional? • Are the professionals enough aware about ED? • Through which channels patients get in contact with professional? • Which is the right figure to turn to?
	The association was born thinking about what we had been missing, the ease of getting in touch with a professional.	Difficulties in getting in touch with a competent person on the subject.	
Importance of language around food	Society's influence on diet culture, the thin body is validated and the fat body denigrated.	Society has a great influence on the way we eat. It is necessary to narrate beyond appearance.	<ul style="list-style-type: none"> • What role does language play in the treatment of eating disorders? • How is the topic of food communicated without influencing bad habits? • Where is nutrition education needed (in schools/sports associations/home)? • How do you communicate about nutrition online? • What emotions there are with regard to certain foods rather than others?
Importance of language when speaking about eating disorders	Words like fight or war should not be used, each word arouses an emotion.	It is necessary to carry out nutrition education by becoming aware of why one chooses certain foods over others.	
Self-reflection and perception of one's own body	In workshops we stimulate reflection, investigating self-perception and self-esteem.	Food is perceived as moral value, good or bad.	

TAB. 05. Main insights of the interview with Animenta

On the other hand I had the opportunity to interview Linda, a psychologist working with students and head of the project Tra di Noi in the province of Trento. The association uses the peer-to-peer approach to listen to young people. The goal of the project is to create bridges between institutional and private social needs and resources being a source of listening, information, and addressing. The activities performed consist in a listening chat that provides psychological support, where young people know another young will reply.

During the interview, she highlighted how the project was develop as a result of a need, there was another methodology to give support to young people through a helpline but young people rarely used it. It became clear how a different channel could reach more the young people looking for help and the chat emerged to be a good solution. In particular, the project has the goal to be a point of access to care spreading knowledge about the services available in the area. She highlighted the importance of young people as advocates to the world of healthcare professionals.

"While others perceive it as a disease, for those who suffer from it, it becomes the only solution they have discovered to confront a profound and indescribable pain"

Laura, 2022

TAB. 06. Main insights of the interview with TradiNoi

KEY INSIGHTS	TESTIMONY	PAIN POINTS	OPEN QUESTIONS
Channels for communicating to young people (positive feedback from chat)	The project originated as the offspring of another project, Invitation to Life (suicide prevention hotline)	Young people did not use phone call, there was the need to create a new channel (chat)	<ul style="list-style-type: none"> • Why is difficult to get in touch with a professional? • Are the professionals enough aware about ED? • Through which channels patients get in contact with professional? • Which is the right figure to turn to?
Services fail to communicate to young people	The project aims to be an access point for young people to the network of services	For young people is not clear when to approach to a healthcare service or to another.	
Effectiveness of the peer-to-peer relationship	Young people are not ashamed of an adult's judgement, they know they are writing to one of their peers	Asking an adult for help is scary, there is a long way to go before you get to ask for help. The first step towards a peer helps you clear the way for asking for help	

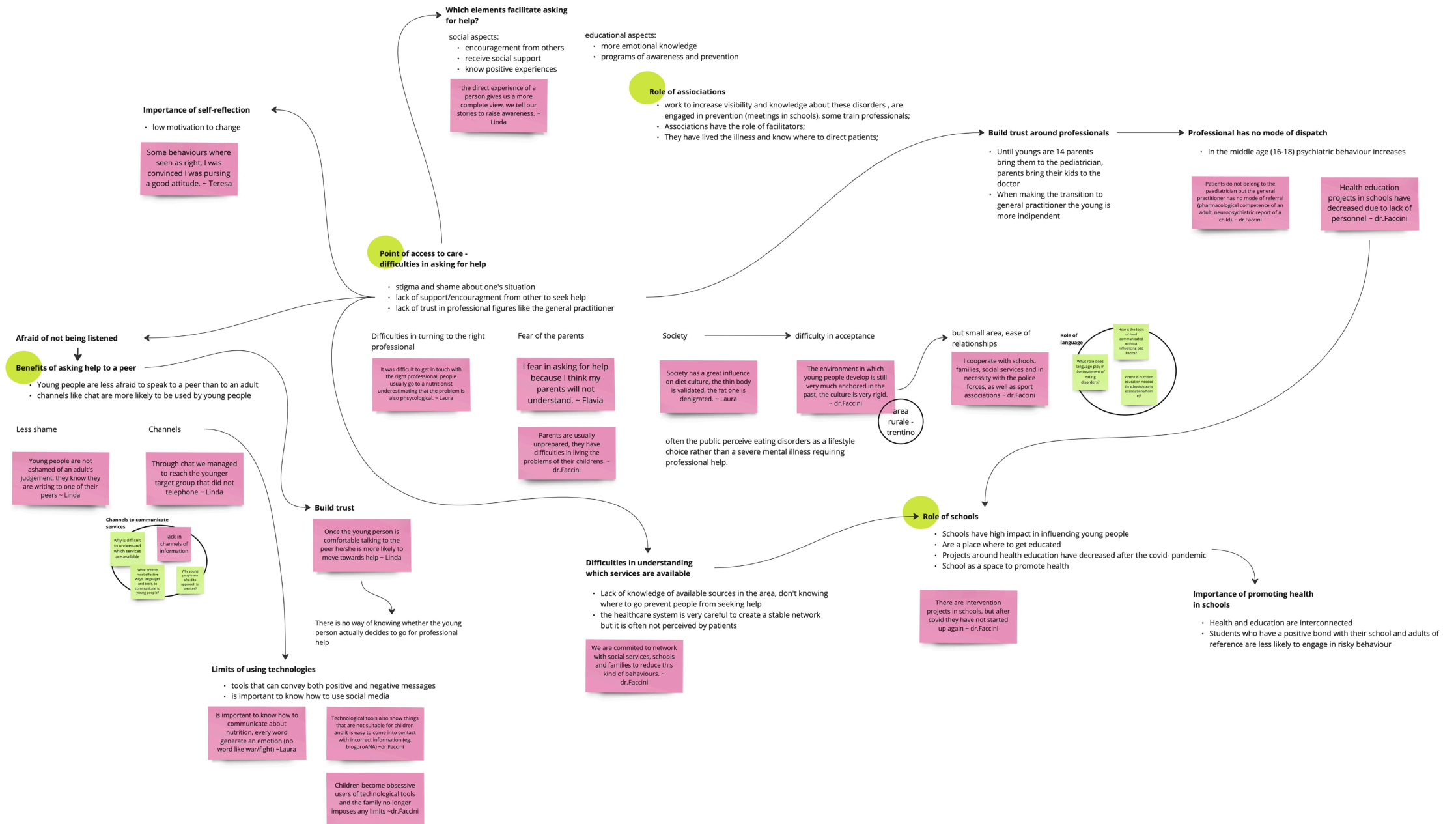
"Asking an adult for help is scary, there is a long way to go before you get to ask for help. The first step towards a peer helps you clear the way for asking for help"

Linda, 2022

3.4 Conclusions

All the insights gained from desk research and interviews were organized and consolidated into a map (FIG.07) to understand better the knowledge obtained and develop a clear direction. The clustered map comprises various themes and evidence from different sources. The notes on the map reflect the input received from the people, revealing how specific topics are closely interconnected.

FIG. 07. Insight Map



As a first topic emerges the difficulties in asking for care, damaging the point of access to care

One such factor is the stigma and shame associated with mental health issues, which can cause a person to feel embarrassed or judged for their situation. A lack of support or encouragement from others to seek help can also contribute to this reluctance. When friends and family members fail to recognize the severity of an individual's health issues, they may not provide the encouragement or support needed to seek help. Furthermore, a lack of trust in professional figures such as the general practitioner can also hinder seeking help.

As a result, people are influenced by society which is not always conducive to well-being, and quickly fall back into situations where one's body is not accepted and negatively reflects the adolescent's awareness.

Another theme that has emerged is that adolescents are afraid of not being listened to

This apprehension could be attributed to various reasons, such as a negative past experience, perceiving the professional as unapproachable, or fearing being judged or misunderstood. On the other hand, adolescents tend to feel more at ease confiding in someone who shares a similar background. Hence, they are more likely to seek support from their peers than from adults, as young people feel more comfortable speaking to someone who they believe will understand them better.

Role of technology

The Tra di Noi service, available in the province of Trento, has enabled more effective outreach to students in need, mainly through its chat mode. However, using technology to provide mental health support also presents a potential drawback. On the one hand, it allows young people to access conflicting information, which can lead to negative influences. On the other hand, it has been observed that media coverage during the pandemic has contributed to increased isolation among students, who are increasingly reliant on their mobile phones for social interaction. Thus, while technology can provide a valuable means of support,

it is essential to recognize and address the potential risks associated with its use in mental health.

Help-seeking facilitators

From the literature review emerged how some aspects can influence people from looking for help, such as social aspects: receiving encouragement from others, receiving social support or knowing of positive experiences, as well as some educational aspects like working on more emotional knowledge and the creation of programs of awareness and prevention.

These considerations were also highlighted during the interviews where the importance of associations and their role was evident. Associations are crucial in increasing awareness and knowledge about eating and mental health disorders. They are actively involved in prevention efforts, such as organizing meetings and workshops in schools, and some also provide training to healthcare professionals making the connection with professionals more smooth. Additionally, associations act as facilitators, providing guidance and support to individuals and families affected by eating disorders. Having first-hand experience with the illness, they possess valuable insight into the challenges and struggles faced by patients.

Role of schools

The research highlights the presence of health services that are actively engaged in maintaining connections with various institutions in the region. However, despite their efforts, these services often face challenges in effectively communicating with young people. Adolescents still feel uneasy when approaching such services and asking for help, especially when dealing with mental health issues. As pointed out by Dr. Faccini, it is crucial to implement services and focus on changing society's perception of mental health. This can be achieved by educating young people and their families on the topic of mental health, particularly within a school setting. Health education in schools can serve as a cornerstone for promoting better mental health outcomes, given the significant impact of education on students' behaviors and attitudes. As education and health are often interconnected, schools can play a pivotal role

in improving students' understanding and acceptance of mental health issues. Therefore, it is essential to invest in health education initiatives within schools to address the current gap in knowledge and support for young people regarding mental health.

3.5 HMW

After gathering insights and clustering them into the map, it was decided to develop an HMW (How Might We) question to guide the solution phase of the project. This question was a starting point for exploring potential solutions to the challenges identified in the research phase. By posing the question in this way, it was able to generate a range of potential solutions that were informed by the insights gathered in the research phase.

HMW increase the potential role of schools as contact hubs with a health support network?

- HMW set up a stable network for health education?
- HMW empower students as promoters of health?
- HMW bring professionals closer to the world of young people?

3.6 Hypothesis

After researching what are eating disorders, what challenges are faced, and which people are encountered in the journey, it seemed evident that there is not a clear path. It indeed emerged how such disorders have a deep connection with psychological awareness and education. Handing down awareness regarding this issue, however, is extremely difficult, especially in an environment like Trentino, where the community has difficulties in recognizing the need for mental health-related interventions. The existing mental health services are well-established and feature a high level of coordination between different professionals. There is often communication and collaboration between the general practitioner, schools, and other health services. However, the general practitioner typically has limited opportunities to understand the patient's mental health status beyond the interventions provided in the office. As young people grow older, they

visit the doctor less frequently, which can lead to the development of mental health issues going unnoticed and untreated. In some cases, this can result in young people experiencing difficulties associated with mental disorders later in life.

The research findings have highlighted the need to establish a system that facilitates effective communication among all parties involved in mental health support. This includes creating a network that enables young people to receive comprehensive health education in schools and access mental health professionals easily. To achieve this, it is necessary to reflect on how the relationships between various actors can be shaped and strengthened. This may involve creating new partnerships and collaborations between schools, health services, and community organizations to provide young people with various resources and support systems. Through these efforts, it may be possible to reduce the stigma associated with mental health and create a more supportive and accessible environment for young people who are struggling with mental health issues.

What emerged:

- Creating a system that makes the parties communicate effectively
- Create a network where young can receive health education in schools and get in touch with professionals
- How the relationships between actors can be shaped?

Design
methodology

Design methodology

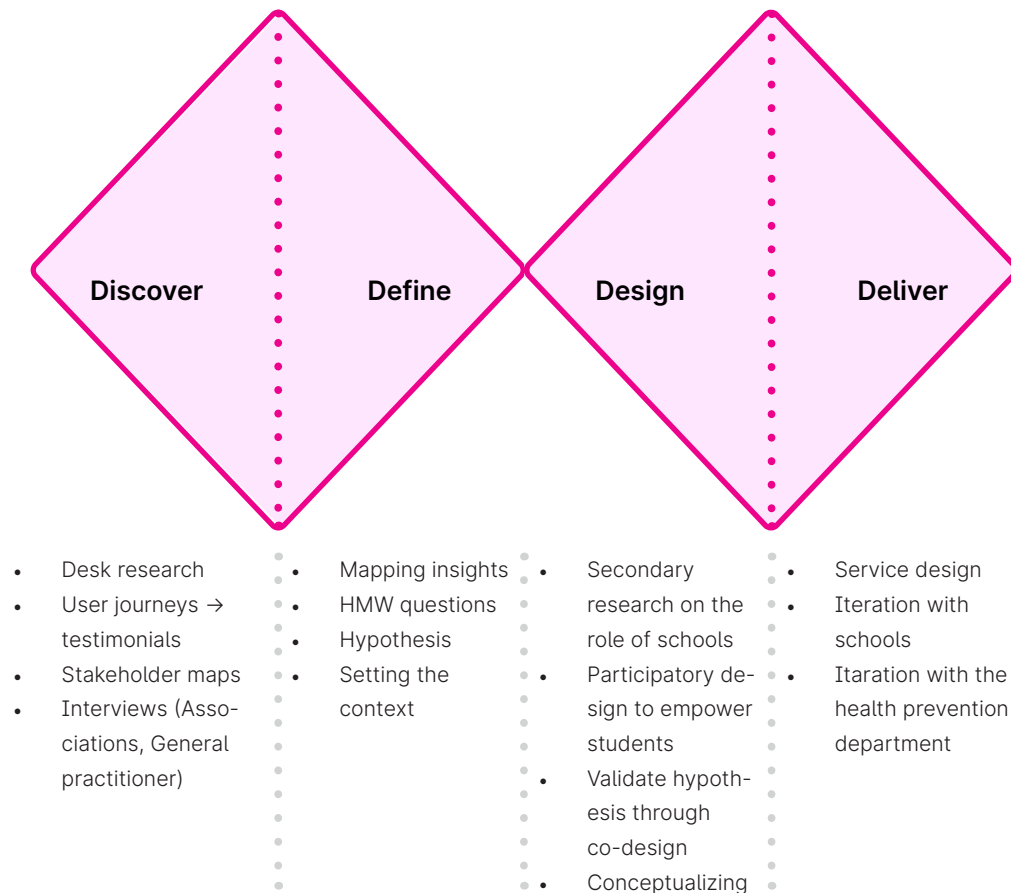


FIG. 08. The Double Diamond. Adapted from Design Council, 2019

The design process of the thesis follows the model of the Double Diamond. This methodology was first introduced by the UK Design Council in 2004 and consists of a framework that clearly conveys a design process. The model is divided into four phases: discover, define, develop, and deliver. It involves a two-phased approach to problem-solving, first exploring an issue more widely or deeply through divergent thinking, and then taking focused action through convergent thinking.

The first phase of the Double Diamond is the discovery, it helps to gather information, research and insights from various sources to gain a deep understanding of the problem we are trying to solve. The objective of this phase is to identify and contextualize the actual problem and opportunity. During this phase I contextualized the problem through desk research, reviewing knowledge first on a global level and then focusing the research in the context of Italy. Within desk research I reviewed the knowledge about eating disorders gaining which are the difficulties people face and understanding how the organizational system works, mapping the journeys people follow, and analyzing the figures around the adolescents. I gained experience from people through testimonials and interviewing different categories of involved people to widen my understanding of my particular demographic context.

The Define stage has the goal to synthesize the information collected to identify a core problem and create then a design brief that outlines the problem statements and the goals to achieve. In this stage, I gathered all the insight gained through the first phase and by using the methodology of insight mapping, all the most relevant problems and opportunities were assimilated. The culmination of this phase was an HMW question that guided the process of conceptualization and design.

In the second diamond of the Double Diamond model, the focus is on gaining knowledge from secondary research which is more contextualized. For this reason, it was decided to narrow the context in the region of Trento and it was elaborated secondary research on the roles of schools in healthcare since this topic emerged from the previous research. While exploring the role of schools it emerged

evident to analyze which interventions are necessary to empower students and emerged the value of participatory design practices and bottom-up approaches.

To develop my own ideas, I wanted to validate my research by involving potential stakeholders through the concept of co-design. During this phase, I used brainstorming techniques to encourage creative thinking and stakeholder mapping to identify and prioritize the most important stakeholders, their value was essential to collect insights and to develop a design solution.

The last phase of the Double Diamond model is the delivery stage, where designers refine the best solution and produce a final product or service. This stage involves testing and iterating the solution to ensure it meets the needs of the users and achieves the goals established in the first stage. In my experience, it was essential to involve the main actors such as students and the healthcare department. I had the possibility to present the design to some of the stakeholders, I was able to test the concept with a limited group of people, collecting relevant insights on its development in the context. For this thesis, the last stage

involved detailing and developing the service, mapping user journeys, and creating the touchpoints.

By using the design thinking methodology to guide the development of my thesis project, I was able to gain a deeper understanding of the problem I was trying to solve, generate a range of potential solutions and create a solution that was more likely to meet the needs of the users.

4.3 Setting the context: Province of Trento

Due to the wide-ranging nature of the topic and the various challenges that users may encounter depending on their path and context, it was deemed necessary to narrow the focus of the research to a specific context. This decision was informed by the data already collected from interviews. In order to gain a better understanding of this context, the research will examine how mental health is managed in the Province of Trento. Specifically, the study will explore the actions taken by adolescents and the challenges they face in accessing mental health services. Furthermore understanding which activities are present in the schools and which action are taken to raise awareness. Firstly it will be explained why the decision to take action in the region of Trento, analyzing then which activities are present for health education.

4.3.1 Why focus the research on the province of Trento

If we analyze the trend among adolescents in the province of Trento, it becomes evident that the challenges around mental health and body image are not isolated issues but reflect a broader national trend in the post-COVID situation. The impact of the pandemic has had far-reaching consequences on the well-being of young people, leading to increased cases of dissatisfaction with their bodies. According to Infosalute Focus (Trentino Salute, 2020), approximately 8 percent of girls in Trento feel overweight and express a desire to go on a diet. These statistics highlight the importance of addressing body image concerns and promoting positive self-esteem among adolescents.

Furthermore, the school environment plays a crucial role in shaping the experiences and well-being of students.

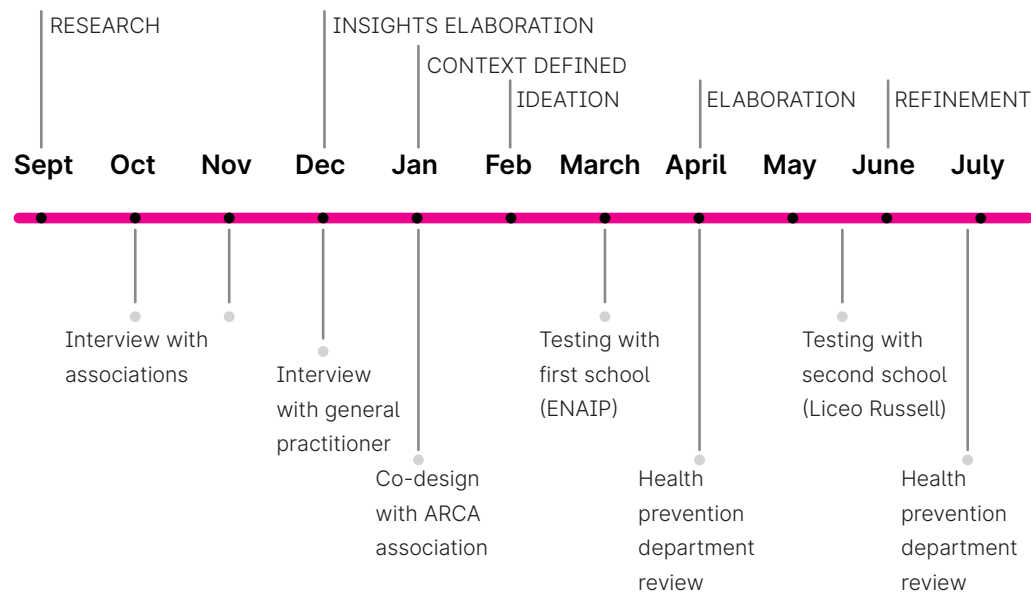


FIG. 09. Timeline

Schools in Trento have the opportunity to implement targeted interventions to address these challenges. The region is dedicated to progress in areas such as education, technology, and personal services. Indeed, the establishment of working groups such as the health prevention department aims to promote and manage health promotion activities targeting students, teachers, and the general population (Ministero della salute, 2019;APSS,2023).

Additionally, it is crucial to address the underlying factors contributing to stigma and the reluctance to seek help. School community engagement can play a vital role in dispelling misconceptions surrounding mental health and encouraging open conversations (Elfrik et al, 2017). By normalizing help-seeking behaviors and providing accurate information, the stigma associated with mental health issues can be gradually reduced, enabling more individuals to access the support they need(Stewart et al., 2015).

Overall, addressing mental health and body image concerns among adolescents in the province of Trento requires a multi-faceted approach that involves schools, healthcare providers, community organizations, and policymakers working together. By creating a supportive and understanding environment, promoting awareness, and providing accessible resources, Trento can make significant strides in improving the well-being of its young population.

4.3.2 Projects present in the area: Health prevention department - Dipartimento di Prevenzione alla salute

The province of Trento is already actively engaged in promoting health and well-being, primarily through the Department of Health Prevention - Dipartimento di Prevenzione. This department plays a crucial role in organizing, managing, and monitoring health promotion and education activities targeted at teachers, students, and the general population. It is responsible for safeguarding the health and safety of the community by addressing infectious diseases, environmental risks and lifestyle-related factors. To carry out these activities effectively, the Prevention Department collaborates with various internal and external resources. A dedicated team of healthcare professionals from the health care company (APSS) oversees these routine tasks, often seeking assistance from other internal departments or external professionals when needed. The

overarching goal of health promotion in Trento is to establish a model that promotes interventions in schools universally, emphasizing the concept of Health Promoting Schools. In addition to their involvement in schools, the department also takes on the responsibility of training teachers. Collaborative training programs are conducted in partnership with the provincial institute for research and experimentation. These training offerings ensure that teachers are equipped with the knowledge and skills necessary to address health-related topics effectively within the school curriculum.

The health education and promotion interventions initiated by the Department of Health Prevention focus on various aspects of healthy lifestyles and behaviors. Key areas of intervention include promoting healthy eating habits, encouraging physical activity, providing affective and sexual education, teaching first aid skills, and combating substance use. These interventions are primarily implemented directly within schools and are carried out by the dedicated staff from Apss or appointed professionals with expertise in specific domains.

By targeting schools as a focal point, these health promotion initiatives aim to create a supportive and conducive environment for students to develop healthy habits and make informed choices about their well-being. Through comprehensive programs and activities, the Department of Health Prevention seeks to empower students, teachers, and the wider community to adopt healthier lifestyles, improve mental health, and cultivate a sense of overall well-being.



FIG. 10. Province of Trento map. Wikipedia, https://commons.wikimedia.org/wiki/File:Trento_mappa.png

CHAPTER FIVE

Role of schools in healthcare

Role of schools in healthcare

5.1 Introduction

In the last three decades, numerous global initiatives have focused on clarifying and promoting the role of schools in safeguarding and promoting health. One notable milestone occurred in 1995 when the World Health Organization (WHO) played a pivotal role in establishing the Global School Health Initiative. This initiative aimed to develop a holistic and integrated approach to school health, now recognized as Health Promoting Schools (HPS) methodology, which has gained widespread recognition (Tang et al., 2008) and which are active in the Italian context and in the region of Trentino (APSS, 2023).

The right to education and health are core human rights and essential for social and economic development. Now, more than ever, it is important to make all schools places that promote, protect and nurture health; that contribute to well-being, life skills, cognitive and socio-emotional skills, and healthy lifestyles in a safe learning environment. (WHO, 2021)

Education is commonly referred to as a "social vaccine" because it offers protection against various health conditions. When children attend school, they acquire not only academic knowledge but also develop social, psychological, and higher-order thinking skills. Furthermore, these skills have been found to have a positive impact on health outcomes (Barker et al, 2007).

This is why the school setting is a unique opportunity to promote youth health. Youth well-being can be improved by ensuring that every school in the European region is a health-promoting school (Vilaça et al., 2019). The Who supports and promotes health-promoting schools in many

countries, providing resources available for professionals interested in the promotion of health in schools, as well as manuals on how to become a health-promoting school. Therefore it was decided for the scope of this thesis to have an overview of what is meant to be a health-promoting school and which actions are necessary to be taken to promote health in schools. It will be analyzed which actions are already taken in the context of Trento understanding how they are structured and where they could be implemented.

5.2 School-based healthcare system

Firstly it is necessary to understand what is meant by a school-based healthcare system.

A school-based healthcare system is based on a systemic approach that ensures that health and well-being policies, mechanisms, and resources are sustainably promoted in all aspects of school life. This involved cross-sectoral collaboration, participatory processes, models of distributed leadership, capacity-building and effective monitoring and evaluating (WHO, 2021). The WHO has indeed elaborated some standards that the different stakeholders can use to elaborate a whole school approach. The points involve developing policies to promote and protect health within the school, supporting training, and investing in collecting data on health. Communicating these policies to the whole school community and involving teachers, student representatives, and carers in decision-making to promote an HPS. Indeed is important to deepen the meaning of a health-promoting school understanding around which strategies are necessary to take action.

5.2.1 What is an health promoting school

Before going in depth into explaining what is meant to be a health-promoting school it is first necessary to define what is meant by health promotion. The World Health Organization (WHO) defines health promotion as "the process of enabling people to increase control over and to improve their health" (WHO, 1986). It involves empowering individuals to take actions that enhance their well-being.

Health promotion strategies encompass several key elements, as illustrated in **FIG N.11**. These strategies include:

- strengthening community action, which involves engaging communities in activities that promote health;
- developing personal skills, which focuses on empowering individuals to make informed decisions and adopt healthy behaviors;
- creating supportive environments that facilitate healthy choices and lifestyles;
- enabling, mediating, and advocating for health, which involves facilitating access to health services and addressing health inequities;
- reorienting health services to prioritize prevention and health promotion.

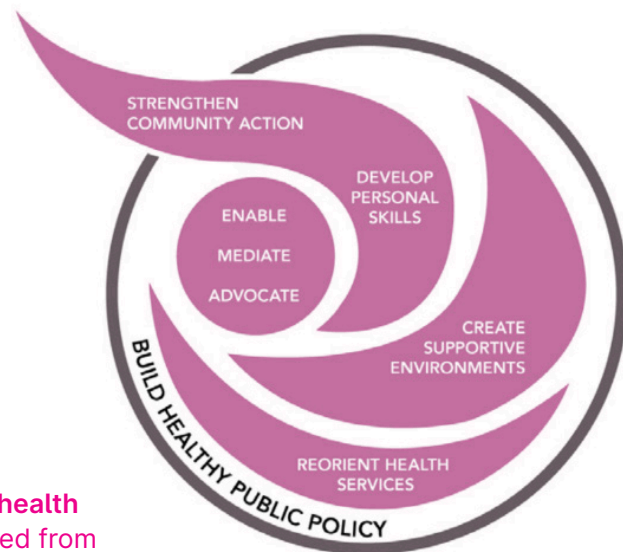


FIG. 11. Strategies of the health promoting schools. Adapted from Vilaça et al., 2019: p.9

Health-promoting schools (HPS) are schools with a strengthened capacity to be healthy settings for living, learning and working. The concept of health-promoting schools was introduced since the birth of the World Organization and the goal is to develop a health-promoting education system, which is one that through intentional, planned actions institutionalizes health promotion in all its functions (WHO, 2021).

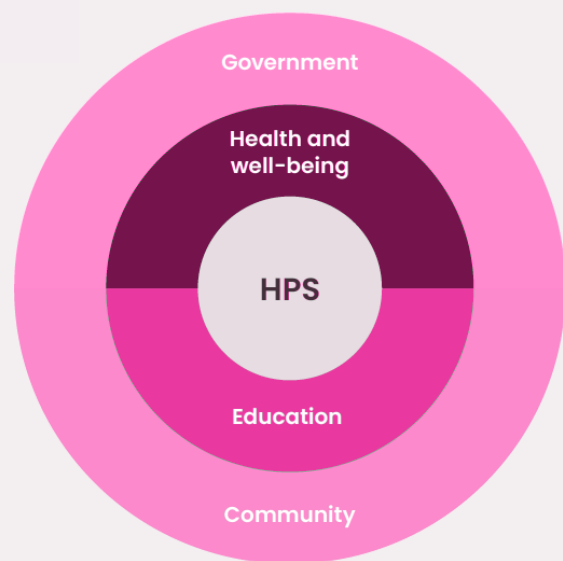
5.2.2 Why promoting health in schools

Health and education are intricately linked (Ministero della Salute, 2019). Numerous benefits arise from promoting health in schools, such as enhancing learning capacity and improving school attendance for students who enjoy good health as shown in FIG.12. Simultaneously, attending school positively influences the health status of children. Moreover, young people who have a positive connection with their school and supportive adults are less likely to engage in risky behaviors and more likely to achieve positive learning outcomes (Wang et al., 2014). By actively promoting health among both students and staff, schools can serve as positive role models and work toward achieving educational, social, and staffing objectives while positively impacting the overall health of the entire school community.

Indeed lifestyle and context represent two important factors in the broader concept of health (Jensen, 1995):

- Lifestyle includes health behaviors and habits such as diet, exercise, substance use, and sexual behaviors. Indeed individuals can make choices about their lifestyle.
- Context represents both where people live and work and the environmental and social conditions that influence the individual's life. Changing the context is difficult but not impossible, so it is always worth trying to improve it.
- Lifestyle and context are interconnected. For example, living in a safe neighbourhood with adequate outdoor play spaces for children increases the likelihood that they will get sufficient physical activity.

Health depends on the interaction between the individual and the context. Therefore, promoting health means dealing with individual behavior, the quality of social relationships but also the context and living conditions. Schools that promote health witness how these individual and environmental factors can influence health and well-being (Vilaça et al., 2019) detailing the importance of working with each other.



Why invest now?

Health and well-being	Education	Community	Government
To ensure healthy growth and development of students	To improve health literacy, beliefs and attitudes, skills and health-promoting behaviour among students, staff and the wider community	To increase engagement among schools, families and communities	To achieve more equitable health and education outcomes, including increased gender equity
To improve health literacy, beliefs and attitudes, skills and health-promoting behaviour among students, staff and the wider community	To increase the capacity of schools to address student health and well-being	To improve student access to health services	To increase student, family and community health and well-being
To increase the capacity of schools to address student health and well-being	To increase engagement among schools, families and communities	To enhance community engagement in school operations	
		To promote healthier communities and community citizenship	

What can be achieved?

Improved health-enabling environments in schools	Less inequality in educational outcomes	Sustained multisectoral collaboration that efficiently supports health well-being and education	Scaled-up health-promoting policies, plans and activities
Reduced health risk factors within and outside school premises	Less inequality in educational achievement	Increased workforce capacity, social capital and social cohesion	Decreased burden of disease in children and adolescents
Improved health and well-being of students, staff and the wider community	Improved school completion rates		
Establish foundational knowledge, attitudes and behaviour to enhance health and well-being throughout the lifespan			
Reduced inequities and inequalities in health outcomes			

FIG. 12. Framework of the WHO about why is important to promote health in schools. WHO, 2020: p.8

5.2.3 Whole school approach

The model that has been developed to promote health in schools is designed based on the concept of a whole-school approach, as outlined in the She manual (Vilaça et al., 2019). This approach seeks to enhance not only the health but also the education of students by employing a structured and collaborative method. The whole-school approach can be further broken down into six key components, each of which plays a crucial role in promoting health and well-being among students. By simultaneously addressing health and well-being across these components, they reinforce one another, resulting in a powerful and integrated approach that maximizes the impact of health promotion efforts (TAB.06).

The goal of the whole-school approach is to integrate health and wellness within ethics, culture, and daily life in the school context. First, it deals with the incorporation of health into current school activities, educational offerings, and assessment standards. On the other hand, it deals with the organization of buildings, spaces within the school and finally it deals with seeking partners and collaborating with the local community to create skills. The effectiveness of these multi-competent actions in the school context is effective in positively changing even in the long term (Elfrik et al, 2017).

TAB. 07. Components of the whole school approach. Vilaça et al, 2019: p.14

COMPONENT 1	Healthy school policies are clearly defined documents or accepted practices that are designed to promote health and well-being. These policies may regulate which foods can be served at the school or describe how to prevent or address school bullying. The policies are part of the school plan.
COMPONENT 2	School physical environment includes the buildings, grounds and school surroundings. For example, creating a healthy physical environment may include making the school grounds more appealing for recreation and physical activity.
COMPONENT 3	School social environment relates to the quality of the relationships among and between school community members, e.g., between pupils themselves and pupils and school staff. The social environment is influenced by the social competencies of the members of the school community, and also relationships with parents and the broader community.

COMPONENT 4	Individual health skills and action competencies can be promoted through the curriculum and through activities that develop knowledge and skills which enable pupils to build competencies and take actions related to health, well-being and educational attainment. Actions should be included in the school's everyday life. They should aim at, for example, healthy eating, daily physical activity, developing social skills and health literacy
COMPONENT 5	Community links are links between the school and the pupils' families and the school and key groups/individuals in the surrounding community. Consulting and collaborating with community stakeholders will support health promoting school efforts and support the school community in their health promoting actions.
COMPONENT 6	Health services are the local and regional school-based or school-linked services that are responsible for the pupils' health care and health promotion by providing direct pupil services. This includes pupils with special needs. Health service workers can work with teachers on specific issues, e.g., hygiene and sexual education.

5.3 Which initiatives are active in the province of Trento

Previously, we discussed the active involvement of the Trento region in the network of health-promoting schools. In line with this commitment, the region has developed the provincial prevention plan, known as the "Piano Provinciale di Prevenzione 2021-2025." This plan encompasses a range of programs addressing various health-related issues. It outlines a structured and collaborative approach to be established between the education and health sectors, forming a cohesive and ongoing pathway. Within this framework, the promotion of health, well-being, and the cultivation of a culture of safety and legality are formally incorporated into the educational system, spanning both formal education and training. The plan adopts an integrated perspective, guided by the principles of intersectoral collaboration and participatory planning. Furthermore, it ensures alignment with national standards and programs to maintain coherence and consistency in health promotion efforts within the region.

Hence, to establish the provincial network of health-promoting schools, several strategies have been implemented, focusing on various thematic areas. These thematic areas encompass the promotion of healthy eating, encouraging physical activity, and combating sedentary behavior, prevention of addiction, and addressing mental

health and wellness, including the prevention of eating disorders. For each thematic area, a set of actions has been identified, guided by a comprehensive school approach. The aim is to foster the development of individual health and wellness skills, while also promoting the capacity for collective action and fostering collaboration within the community. By pursuing these objectives, the overarching goal is to establish a cohesive network of services that actively engage citizens in adopting and maintaining good health practices.

5.3.1 Health education programs in schools

To turn these actions into practice the "Health Prevention Department" is responsible for promoting and managing all health promotion and education activities aimed at the entire school community. The intervention model used is not only that of proposing cross-curricular interventions aimed at school students but also training teachers and school staff. The training proposals are implemented in collaboration with teachers through a continuous formative exchange thanks to the support of the provincial research institute Iprase, which promotes and implements research and experimentation initiatives to support educational innovation and the development of the provincial educational system (Vivoscuola, 2023). In parallel, Peer Education interventions are proposed, which have been found to be more difficult in terms of organization but more effective, favoring group dynamics and the design autonomy of young people, affecting the critical capacity and awareness of the individual to make choices. Peer action also can have an impact not only within the school community but also on the wider community.

However, the Health Prevention Department takes the lead in determining and specifying the activities to be carried out in schools. They propose the intervention details to the head teachers of each institute, providing them with program sheets that outline the planned activities. Subsequently, the department further develops and refines the interventions based on the program outlined.

5.3.2 Development of current health education programs

The current interventions focus on assessing the health status of schools through questionnaires and then evaluating suitable interventions. Data is collected through two surveillance systems: Okkio alla salute, which monitors the habits of eight-year-old children through questionnaires completed by students, parents, and school leaders every two years, and HBSC, which monitors the behaviors of 11, 13, and 15-year-old adolescents internationally. These data are processed by the observatory, a national survey, to determine the appropriate programs for schools.

A working group comprising healthcare professionals, educators, social workers, and psychologists analyzes the data and translates them into actionable steps to be implemented in schools. However, it is important to note that the current approach primarily relies on questionnaires, lacking direct interaction with students.

Despite this, a change is underway in the delivery of new school projects; in fact, the health-promoting schools project identifies directly from the school what needs to be done. Each school participating in the programme can assess its status by identifying the areas in which it is deficient and determining the area in which improvement is to take place. As this project has only been active since the beginning of the year, it was difficult to find data on which topics each school has chosen and how the department will turn the data into action, so in consultation with some figures from the health prevention department, it was decided to assess how interventions are now being developed in the schools and what processes the department is following.

5.3.3 Process followed

The process of developing health education programs in schools is a year-long journey led by the prevention department. To ensure the effectiveness of these programs, several key steps are followed. First and foremost, surveillance systems play a crucial role in guiding the development of interventions for students in schools. As we saw before these surveillance systems gather important data on various health-related factors, such as prevalent health issues, risk behaviors, and the overall well-being of students. By analyzing this data, the prevention department gains valuable insights which are fundamental for elaborating the intervention in the schools. Additionally,

the participation of students in health education projects is evaluated through internal satisfaction questionnaires. These questionnaires provide a means to gather feedback and assess the engagement and satisfaction levels of students with the existing programs. The responses received are carefully analyzed and considered in the development of future interventions, ensuring that they align with the preferences and requirements of the students.

To better understand the process it was decided to outline a timeline (FIG.13) according to the data provided by interviewing some figures from the health prevention department, in this way, it was better understood how the data from the questionnaires are translated into the programs elaborated for the schools.

MARCH

Monitoring questionnaires

In March, the department receives a head of schools chosen by the MIUR to carry out the epidemiological questionnaires, for Trentino the sample is 36 schools. Each school receives identification codes and the questionnaire is carried out online.

APRIL

Analysis of data collected

In April, the data is entered into an international database and received in raw form by the Health Observatory - Department of Social Policy. Here in April, a small group of five people (three doctors, a statistician and a sociologist) process the data and produce infographics.

MAY

Project sheet realisation

Subsequently, a larger coordination group consisting of a 20-person team from the health prevention department team, the student council, the teachers' council and some school leaders analyses the collected data infographics and assesses the most problematic elements in need of intervention. At this stage, the group uses the brainstorming technique to work out how to act on the various issues. The response to these events is the creation of a project sheet where the intervention theme is defined with its objectives and methods.

JUNE

School adhesion

Subsequently, in May and June, the project outlines are presented to the schools and once adhesions have been obtained, the department opens internal calls for partners in the development of the materials.

JULY → AUGUST

Lessons creation

During the period of schools summer holidays, intervention materials are then developed and internal questionnaires are conducted to assess the impact of the intervention at the end of the lesson

SEPTEMBER → JUNE

Delivery to schools

From September the completed programmes are then distributed to the schools, resuming maintenance work at the end of the school year in June if necessary.

FIG. 13. Timeline of the current process for the development of health education programs

5.4 Conclusions

In conclusion, this chapter has highlighted the interconnectedness between education and healthcare, underscoring the profound impact they have on each other. It is widely acknowledged that engaging adolescents in health-related issues within the school setting is a crucial strategy for both improving their overall well-being and encouraging their utilization of existing health services. By creating networks among these services, it is possible to effectively promote help-seeking behavior among adolescents, ensuring they receive the support they need. While there exists a wealth of knowledge on how to enhance student welfare, translating these insights into practical actions poses a significant challenge. Nevertheless, it is essential to implement actions within the school context, as their effects can bring about positive lifestyle changes among students. However, the current development of educational programs is going in a direction that takes into account the diverse range of schools and students, ensuring that no perspective is overlooked or marginalized.

The Trentino network of health-promoting schools represents a commendable initiative aiming to implement early interventions within schools, fostering greater student engagement with their own health. Nevertheless, the modalities of this network are still in their preliminary stages, making it challenging for schools to identify and implement the specific interventions necessary for their students. In summary, by fostering collaboration between these sectors and implementing targeted interventions within schools, it is possible to create an environment that promotes healthy behaviors, empowers students, and ensures their holistic development.

" Health is achieved through the interaction between people and their environment. Therefore, health promoting schools have a broad understanding of health and reflect how both individual and environmental factors are influencing health and well-being"

(Schools for Health in Europe, n.d)

Participatory
Design to
empower
students

Participatory Design to empower students

6.1 Introduction

In the previous chapter, we examined the role of schools in promoting health by analyzing the activities conducted to enhance the well-being of students. One crucial aspect is the development of interventions that are based on solid evidence and effectively engage young people. Participatory Design, as a strategy, enables the exploration and integration of the perspectives, experiences, and creativity of the young individuals who are the intended beneficiaries of such interventions. By involving young people throughout the organizational and research processes and placing their needs, experiences, and knowledge at the core of the activities, positive impacts can be achieved, particularly in terms of mental health promotion.

This chapter aims to evaluate how young people can be included in the research process and why participatory approaches can yield positive outcomes not only for the participating students but also for the entire school environment. By focusing on interventions that are more effective, relevant, and appealing, participatory design fosters a sense of ownership among students. To accomplish this, we will analyze the framework proposed by the Young and Well Research Center, with the objective of understanding the necessary practices to initiate actions and demonstrating how participatory design can be applied in the context of mental health.

6.2 Including student voice through participatory approaches

As highlighted in the previous chapter, numerous efforts have been made to enhance students' well-being. However, it is crucial to acknowledge that there are still gaps between research and practical implementation (Halliday et al., 2019). Often, decisions regarding student well-being are made without actively involving the students themselves, leading to assumptions about what is best for them without considering their perspectives. This underlines the pressing need to reflect on the current system and explore how participatory approaches can bring significant benefits.

When students feel that their voices are not heard, it can lead to feelings of alienation, anonymity, and powerlessness. These experiences contribute to disengagement from school, and the potential consequences can be severe, including increased truancy rates and higher dropout rates (Mitra 2004; Smyth and Fasoli 2007). Therefore, it becomes increasingly evident that actively involving students in decision-making processes and valuing their input is essential for creating a more inclusive and empowering educational environment (Rycroft-Malone et al., 2016). By embracing participatory approaches, schools can provide students with the ability to express their opinions, share their experiences, and contribute to shaping their own well-being. This approach acknowledges students as active agents in their own lives and recognizes the value of their insights. It fosters a sense of ownership, empowerment, and engagement, ultimately promoting a positive and inclusive school culture. Furthermore, incorporating participatory approaches can bridge the gap between research and practice (Rycroft-Malone et al., 2016) by integrating the real-life experiences and perspectives of students into decision-making processes. This alignment between research and practice ensures that interventions and strategies are more relevant, effective, and tailored to meet the unique needs of the student population, perhaps promoting interventions that are developed through 'bottom-up' approaches which are increasingly implemented and accepted (Roseanna Bourke & Jo MacDonald, 2018).

In summary, the need for participatory approaches in promoting student well-being arises from the recognition that students' voices should be heard and valued. It addresses the potential negative consequences of disregarding student input, such as disengagement and

dropout rates. By actively involving students in decision-making processes, schools can create a more inclusive and empowering educational environment, bridging the gap between research and practice while fostering student ownership, empowerment, and engagement.

6.3 Integrating Perspectives: need for participatory design

While the significance of students' perspectives on education is widely recognized, their incorporation into the design of daily instructional practices is still lacking. It is essential to consider students' viewpoints as their perceptions play a crucial role in the success of instruction. If students' interpretations do not align with the intentions of teachers and instructional designers, the instructional process may fail to achieve its intended goals (Konigs et al, 2013). It is important to understand that instruction itself does not directly impact student learning but rather operates through the lens of students' individual interpretations, recognizing that students' voices should be heard and valued. How is further explained in the study, Konigs says that when there is a mismatch between the intentions of instructional designers and the interpretations of students, it can lead to students disregarding them. This may impact not only the quality of learning but also psychosocial effects. Therefore, it is crucial to address these mismatches and ensure alignment between the designers' intentions and students' interpretations to enhance both the learning experience and students' motivation to engage in the learning process.

According to Druin (2002), students can assume four distinct roles: user, tester, informant, and design partner. As a user, students can be observed or assessed in their interactions with the designed products or environments. As testers, students are actively engaged in providing comments and feedback on the usability and functionality of the design. In the role of an informant, students offer valuable insights and input based on their experiences and perspectives. Lastly, as design partners, students are considered equal stakeholders in the design process, actively participating in decision-making and collaborating with designers. These various roles highlight the importance of involving students at different levels of engagement and

participation, allowing their voices to be heard and their contributions to be valued throughout the design process.

6.4 Participatory Design for positive education

Involving students in the curriculum holds great promise in fostering student agency, facilitating authentic learning experiences, and effectively preparing them for the dynamic demands of the modern world (Edwards et al., 2015). Participatory design for positive education goes beyond traditional instructional design by considering the holistic well-being of students. It focuses on promoting strengths, resilience, and positive mental health, rather than solely addressing deficits or problems (Halliday, 2019). The approach recognizes the importance of creating a positive school climate and community where students feel a sense of belonging, agency, and empowerment. In this approach, students are seen as active contributors to their own education and well-being. They are encouraged to express their thoughts, preferences, and needs, and their perspectives are valued in the decision-making process. It involves meaningful collaboration, active dialogue, and shared decision-making among all stakeholders. The aim is to enhance student engagement, motivation, and overall well-being while promoting academic success.

6.5 Participatory Design Approach to youth mental health interventions

The utilization of Participatory Design offers a flexible and dynamic approach, incorporating a wide range of methods and techniques to actively involve young people and other stakeholders in the design process (Pnevmatikos et al., 2020). This approach is invaluable in gaining deep insights into how young individuals perceive, navigate, and make sense of the world around them, as well as comprehending the intricate contextual factors that influence any proposed intervention. In the realm of mental health interventions, this approach takes on even greater significance, as it ensures that young individuals with lived experiences of mental health challenges are granted the opportunity to actively contribute and shape the very interventions that directly impact their lives (Sunkel et al., 2022). By collaborating closely with young people and genuinely listening to their voices, it is possible to gain an understanding of the root

causing their struggles. This intimate involvement serves as a crucial instrument, in not only comprehending their unique viewpoints, but also in identifying potential solutions that resonate with their needs, aspirations, and realities (Hagen et al., 2012).

However, the value of Participatory Design does not end with the initial phase of gathering insights. Instead, it underscores the vital importance of maintaining the continuous involvement of young people throughout the entire design process. By doing so, we ensure that the proposed concepts and ideas are not only feasible and acceptable, but also genuinely reflective of the input, perspectives, and desires of these young individuals. Their active engagement guarantees that the recommendations they generate carry significant weight, and their voices remain intact as researchers or designers interpret and translate their invaluable insights into practical proposals that hold the potential for transformative impact.

6.6 Expanding the Role of Students: Value of Participation

The involvement of different stakeholders in design collaboration, including educational designers, teachers, and students, can lead to several beneficial effects (Konigs, 2014). Indeed in the last years, participatory approaches have been considered a suitable approach to building effective learning environments that take into consideration educational problems (Pnevmatikos et al., 2020). Additionally, it is becoming increasingly evident that incorporating students' perceptions and addressing the disparity between teachers' and students' perspectives can have a profound impact on the enhancement of instructional design. By valuing and integrating students' viewpoints, instructional designers can create learning experiences that are more relevant, engaging, and effective. This inclusive approach acknowledges the importance of understanding students' needs, interests, and learning styles, ultimately leading to improved educational outcomes and a more positive and fulfilling learning journey for students (Königs, 2011).

How is detailed in the study of Königs a participatory approach is firstly expected to enhance the quality of learning processes and outcomes by creating more effective

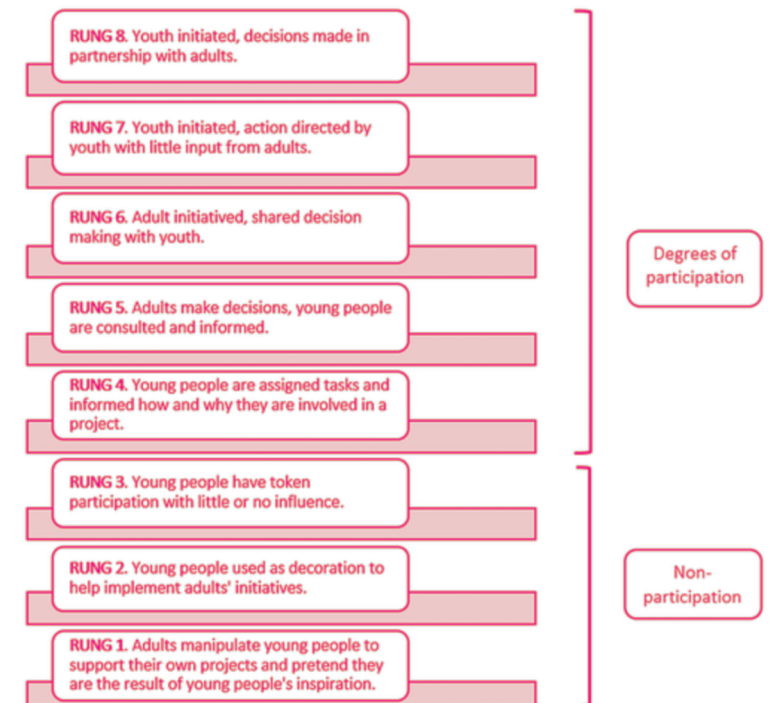


FIG. 14. Ladder of children's Participation. Hart, 1992: p.8

learning environments. While research in this area is still limited, the focus is primarily on the process rather than the direct impact on learning outcomes.

Secondly, participatory design improves metacognition and reflection on learning and teaching, fostering deeper understanding and awareness among students and academic staff. Students become more engaged, responsible, motivated, and self-confident, while teachers and designers gain valuable insights into the effects of their teaching.

Thirdly, participation in design collaboration promotes the development of participatory, collaborative, and democratic competencies. Students learn to discuss differences, handle discomfort, and address conflicting ideas, resulting in personal growth and a stronger commitment to learning. Programs designed for young people are more likely to be relevant and effective when they are informed by the experiences and perspectives of

the young people themselves. By actively involving young people in the decision-making process, their unique insights and perspectives can be incorporated, ensuring that the programs address their specific needs and concerns (Lansdown et al., 2014). However, as shown in FIG.14, there are some models elaborating the grades of participation of the young which can be evaluated according to the needs to achieve. Participatory design is based on the principles of collaboration, co-creation, and empowerment. Users contribute to the design process, which allows them to provide feedback, suggest ideas, and participate in decision-making. The goal is to create products and services that accommodate users' needs and help them achieve their objectives.

6.7 Benefits of student empowerments

By emphasizing participation, it is prioritized the empowerment and engagement of young, fostering their growth as active citizens who contribute to their communities in meaningful and sustainable ways (Hart, 1997). Participation encourages the long-term development of citizenship and cultivates a sense of local responsibility (WHO, 2019).

By actively empowering individuals it's promoted inclusivity and it's enhanced the process of decision-making of the singular user.

In recent years, the province of Trento has adopted peer education as a strategy for implementing health projects in schools, particularly in the context of sex education (APSS, 2022). Peer education programs operate on the premise that students are more likely to receive and internalize healthy messages when they come from their fellow peers, rather than from traditional authority figures. This approach not only facilitates effective knowledge transfer but also has a positive impact on students' personal development. By actively engaging in peer education initiatives, students have the opportunity to enhance essential skills such as public speaking, as they gain confidence in delivering health-related information to their peers (Moore, 2021). Moreover, these programs promote the development of empathy and self-esteem among student participants, as they take on the responsibility of guiding their peers toward making informed

decisions regarding their health. However, it is crucial to go beyond the scope of peer education and explore alternative mechanisms for student engagement (Vilaca et al., 2019). This involves creating new roles and avenues for students to interact with healthcare organizations and professionals, thereby bridging the gap between healthcare services and local communities. Research findings indicate that children who develop a sense of confidence and self-acceptance tend to exhibit a range of positive outcomes. These include higher levels of self-esteem and body satisfaction, a greater tendency to prioritize their physical and mental well-being, and increased engagement in school and extracurricular activities (Amber, 2019). By learning from diverse fields and perspectives, students have the potential to become active agents of change and cultivate community leadership in a more meaningful and impactful way. Through this process, students not only gain knowledge and skills but also develop a sense of ownership and responsibility toward their own health and the well-being of their communities.

6.8 Analysis of the case study: Young and Well Cooperative Research Centre

In the previous chapter, the role of schools in promoting student voice and participation was extensively explored, highlighting the significance of involving students in decision-making processes. It was recognized that students' perspectives and input are valuable in shaping educational practices. To delve deeper into this topic, it became essential to find case studies that provide real-world examples of initiatives and activities aimed at fostering student participation, indeed it was aimed to understand the practices of a whole school approach. By examining the case study of the Young and Well Cooperative Research Centre it was possible to evaluate the methodologies elaborated to foster students' participation and how the contact with institutions takes place.

Overview

The case study elaborates that young people can participate in all aspects of the research process and they provided a framework of tools for youth participation FIG.15. The focus of the guide is on the involvement of the young in the research process of the design phase, where the problem should be identified, but it can be extended in other phases, defining the intervention and elaborating a concept. A participatory approach is ideally applied from the inception of the project through to use and evaluation, but can also be introduced gradually and after a project has already commenced the design process. In FIG.16 is possible to get an overview of the possible scenarios where to include student participation and which methodologies could be the best to use.

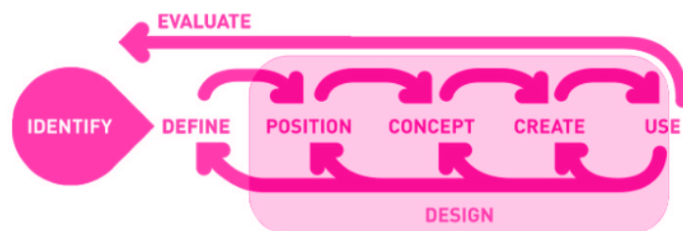
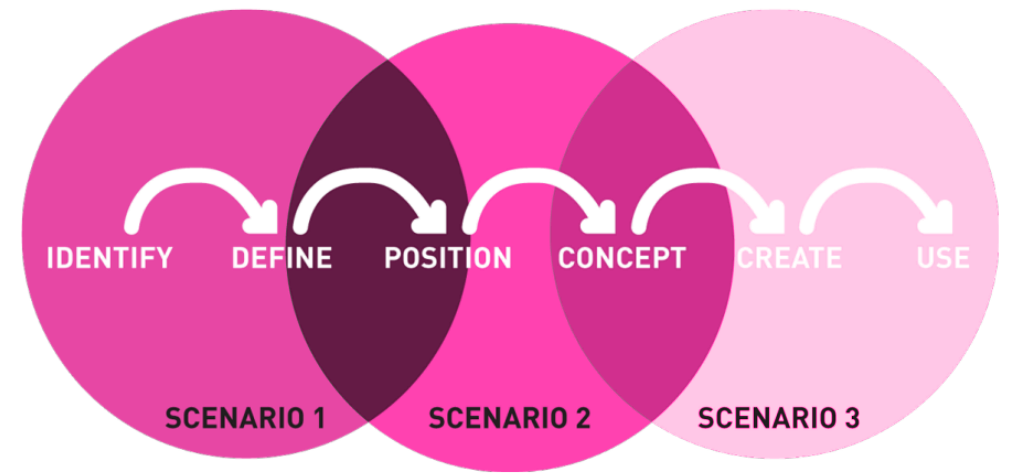


FIG. 15. View of the design process. Hagen et al, 2012: p.3



You need to understand what young people perceive as a problem, or you want to understand particular issues in the context of young people's lives and where there is potential for the most impact.

You might use a combination of:
 Surveys
 Co-design Workshops (Discovery)
 Focus groups
 Interviews
 Online Discussions
 Facebook Polling

You have defined the area of focus, the impact and outcomes, you need to understand how the issue is perceived by young people, how it should be positioned so as to be meaningful and engaging, and generate potential concepts and strategies.

You might use a combination of:
 Focus Groups
 Brand Testing
 Friendship Interviews
 Online Discussions
 Card Sorting
 Co-design Workshops (Design)
 Crowdsourcing

You have existing concepts, prototypes, products or services and need to know whether they are engaging for young people, and how they might be improved.

You might use a combination of:
 Co-design Workshops (Prototyping)
 Usability Testing
 Pilot Testing
 Mobile Diaries

FIG. 16. Scenarios where to include student participation. Hagen et al, 2012: p.3

Framework

To set the research the Research Centre elaborated a framework where interventions are shaped through the direct involvement and input of young people, in parallel with the insights from the existing scholarly evidence base.

On one side there is in fact the action that should be taken to make the process participative where students are going to be included in understanding what they see as a problem through focus groups, interviews, or discussion. On the other side, there are the actions that should be taken by the health organization thus analyzing data, doing a literature review, and developing evaluation frameworks FIG.17/18.

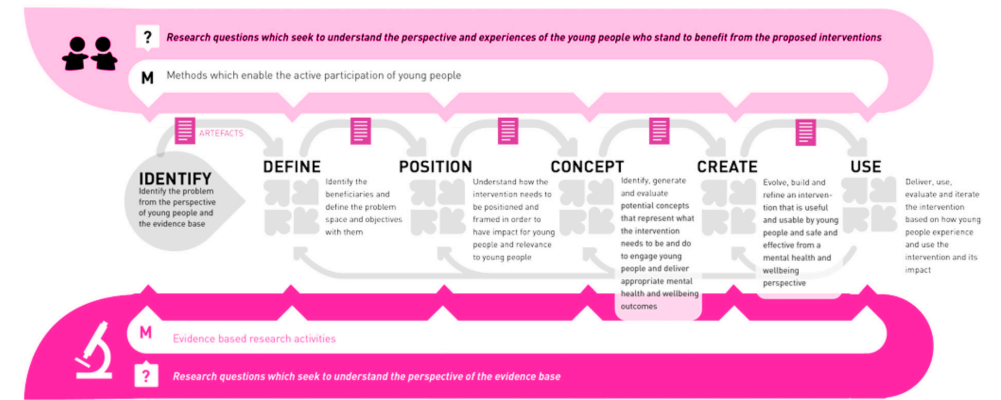


FIG. 18. Design framework. Hagen et al, 2012: p.8

Reachout.com case study

For the delivery of the new website of ReachOut.com the research was structured following this framework. ReachOut.com is a website where young people can open themselves and understand their perspective about what's happening in their future.

The design of the new ReachOut.com service was shaped through a combination of participatory methods and conventional health intervention planning activities. The team utilized population health surveys, literature reviews on mental health, and past service evaluations to identify the barriers preventing young people facing mental health difficulties from seeking help. They also drew upon behavioral theories and potential strategies to increase awareness and willingness to seek help. By mapping impact and outcome objectives into logic models, the team illustrated the relationships between different strategies and expected short, medium, and long-term results. To understand how young people perceived mental health issues and ensure relevance, the team conducted focus groups, friendship interviews, and Co-design Workshops. These interactions helped uncover that young people were motivated by opportunities for connection and learning from others' experiences. During the Co-design Workshops,

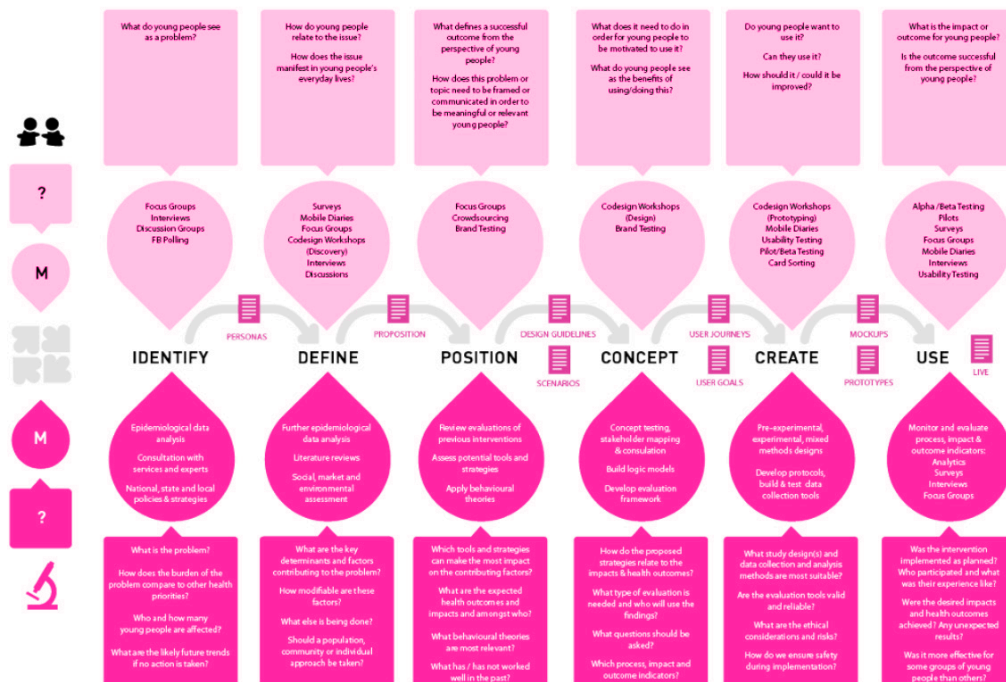


FIG. 17. Framework with examples of research questions elaborated from the Research Centre . Hagen et al, 2012: p.9

young people also contributed to identifying potential service delivery methods and locations. Research findings were captured and synthesized through design artifacts such as personas, scenarios, user goals, and user journeys. These artifacts played a central role in involving young people in the design process, integrating research insights, and progressing the design at different phases.

Key points

- The effectiveness of addressing an issue relies on two important sources: the existing evidence base and the direct input of young people who will benefit from the service. By combining insights from research and involving the perspectives of young individuals, a comprehensive understanding can be achieved, leading to more impactful and relevant interventions.
- Participants in Co-design Workshops engage in collaborative ideation, exploration, and evaluation of new ideas or alternatives. These workshops employ generative methods and tangible tools and techniques like Inspiration Cards (Halskov, 2006) and storyboards to actively involve young people in the process of generating design ideas.
- Design artifacts are tools that help to support the collaborative work necessary for designing evidence-based interventions with young people.
- It is crucial to retain the results of the design process in order to share them with other stakeholders involved in the development of actions.

6.9 Conclusions

In conclusion, this chapter highlights the importance of including student voice through participatory approaches. It emphasizes the need to actively involve students in decision-making processes and value their input to create a more inclusive and empowering educational environment. By incorporating participatory approaches, schools can provide students with the opportunity to express their opinions, share their experiences, and contribute to shaping their own well-being. This approach recognizes students as active agents in their own lives and acknowledges the value of their insights. It fosters a sense of ownership, empowerment, and engagement, ultimately promoting a positive and inclusive school culture.

Participatory design approaches, such as peer education programs and collaborative design workshops, offer valuable opportunities for student empowerment and engagement. These approaches enable students to develop essential skills, enhance their self-esteem, and cultivate a sense of responsibility. They also facilitate the co-creation of interventions and services that address students' specific needs and aspirations, leading to more meaningful and impactful outcomes.

The case study of the Young and Well Cooperative Research Centre provides real-world examples of how participatory approaches can be implemented to foster student participation. The framework and methodologies employed in the ReachOut.com case study demonstrate the benefits of combining research insights with the direct input of young people in shaping interventions.

In summary, the inclusion of student voices through participatory approaches is crucial for promoting student well-being, enhancing how the current system can be changed, and empowering students as active contributors to their own education and well-being. By valuing and integrating students' perspectives, schools and educational institutions can create more inclusive, engaging, and effective learning environments.

Design process
Ideation

Design process

Ideation

7.1 Introduction

In recognizing the importance of addressing the school environment, it became apparent that a deeper understanding of the context was required. Consequently, alongside the ongoing research, the decision was made to involve active organizations in Trento to gain further insights. One such organization contacted was ARCA, an association focused on eating disorders research in Trento. The objective was twofold: to validate the findings gathered in the research process and to gain their perspective on the education system, particularly regarding the types of relationships schools can foster.

Engaging with ARCA served as a means of corroborating the gathered knowledge and enriching the understanding of the subject matter. By seeking input from experts in the field, the research aimed to incorporate their valuable insights into the exploration of how schools can contribute to addressing eating disorders and related mental health concerns. This collaborative approach not only reinforced the validity of the research but also ensured a comprehensive analysis of the role of schools in promoting a supportive environment for students' well-being.

In order to advance the initiatives within the school environment, it was crucial to establish communication with the Health Prevention Department. Contact was made with Cinzia Vivori, the department's representative, with the specific objective of refining the emerging concept and evaluating the practical implementation of the identified actions within the school context. An important aspect of this collaboration was to discuss and explore strategies for actively involving students in the process. Cinzia Vivori's valuable perspective and extensive knowledge played

a pivotal role in assessing the feasibility of the concept and shaping it into its final form. By incorporating her insights, the research team was able to enhance the overall effectiveness and relevance of the proposed actions, ensuring a more inclusive and comprehensive approach to student well-being in the school environment.

7.2 Co-designing with the association ARCA to elaborate a concept idea

Objectives

- Gain data and validate the difficulties young with eating disorders encounter;
- To ideate possible solutions, gaining from past experience, understanding where to take action and which information are needed to know, understanding how the relationships between stakeholder take place and how to work in the context of schools

Participants

The participants were volunteers of the association ARCA in Trento which brought the perspective of themselves both as people who lived with the illness or as some relatives but also as supporters for other people during their journey. At this stage, it was still important to get a point of view of who already supports adolescents to understand which direction to take.

Set up

It was decided to have a focus group in the association office where it was possible to set up a table where to do the activity. My role was one of the moderators and the 3 volunteers participated in the activity.

Preparation

In order to organize the meeting, a presentation was delivered to visually clarify the session's objectives and guide the entire process for the participants. The materials employed included Post-it notes, papers for creating maps, and stakeholder cards to facilitate session moderation.

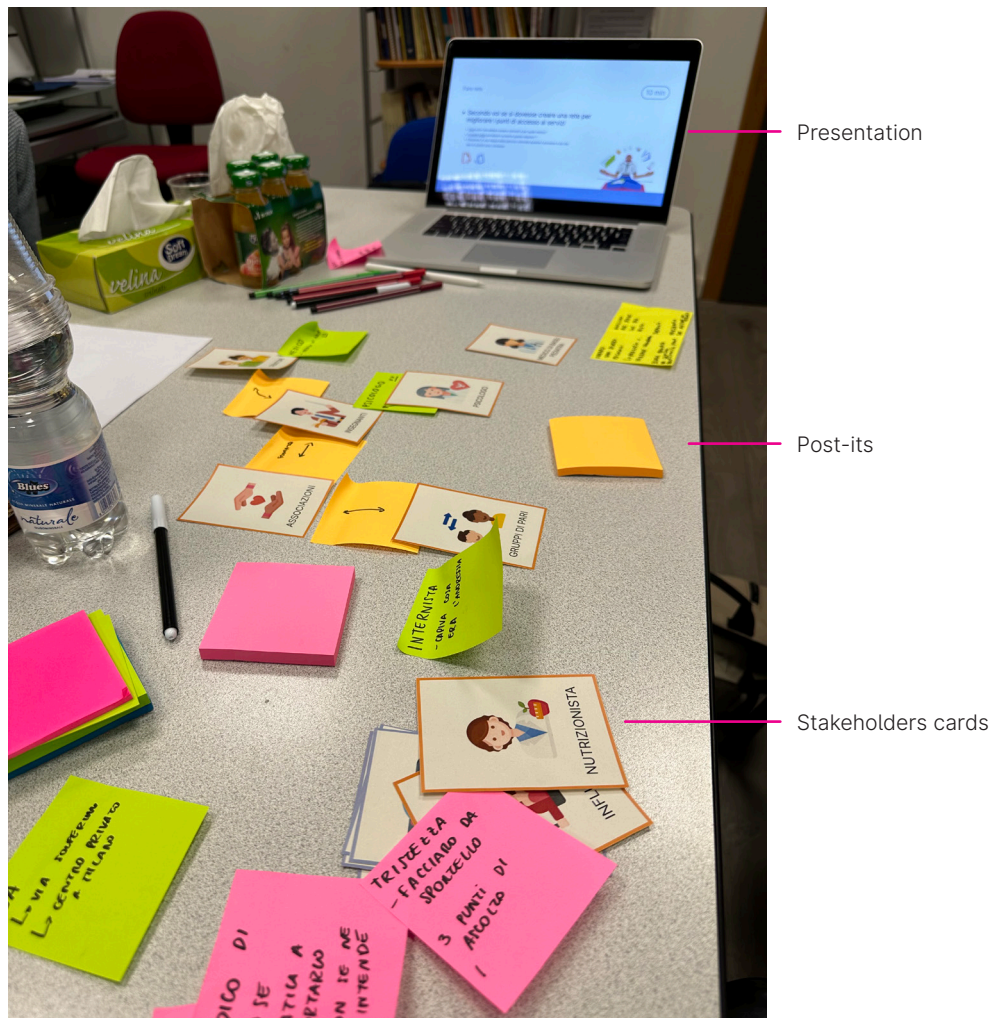


FIG. 19. Materials used during the session.

Structure

The session was realized with different activities guiding the participants in the reflection of the journey they experienced and secondly elaborating a map about how the current system works and starting thinking around the role of schools.

Detailed structure

1. Introduction: description about me and my research topic. The session had the aim to collectively identify problems and validate what was found through the research going in deep in understanding which actions is still possible to take
2. Ice-breaking activity: Shortly describing their story and motivations to join the association.
3. Exploration of their experience: Starting from their own experience. Where did you ask for help the first time, to which person did you speak? How did you feel when you had your first meeting? Brainstorming activity with post-its elaborating what were the experiences, the challenges and what they wished;
4. Research validation: The discussion continued by presenting statements collected from the research and were asked if they were in line with their experience.

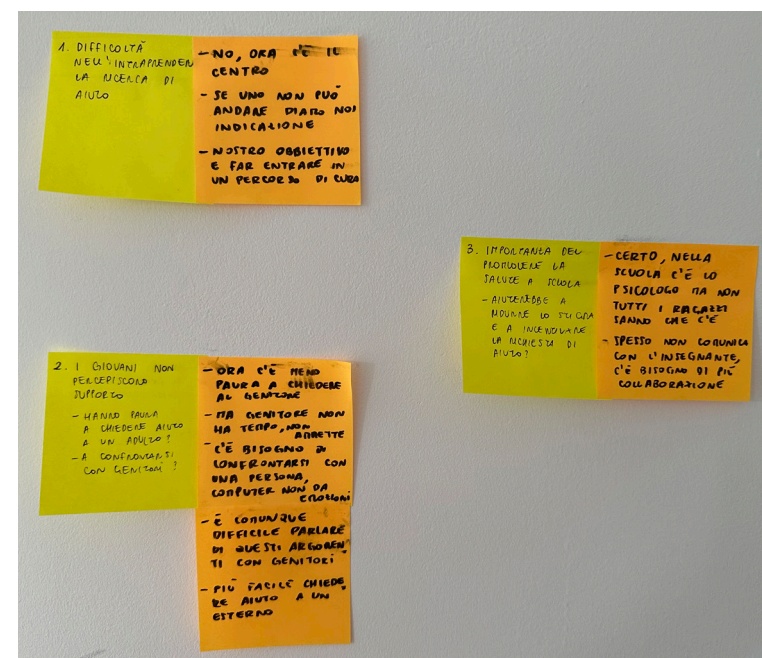


FIG. 20. Insights elaborated from the activity of research validation

5. Creating a network: The ideation phase where was reflected on which figures and in which places intervene in order to facilitate access to services. The session elaborated a set of actors that are crucial in the path of eating disorders, outlining their role. The session was moderated through stakeholder cards to promote discussion.
6. Role of school exploration: Open discussion on how to increase the role of schools as contact hubs with a support network

7.2.2 Key insights

1. Create an accessible support school network to improve access to care:

There is a pressing need to establish a comprehensive support system within schools, ensuring easy access to necessary healthcare services. Although the availability of care facilities has improved, significant challenges such as long waiting times and insufficient pre-treatment



FIG. 21. Image of the session with the association

support persist. By developing a support school network, educational institutions can gain access to valuable resources and expertise that would otherwise be inaccessible to young individuals.

2. Foster student engagement and confidence through effective approaches:

Addressing the lack of trust in general practitioners outside the school environment requires focused efforts on enhancing communication between young individuals and doctors. Building a strong doctor-patient relationship based on trust is essential. Implementing approaches that actively engage students and provide opportunities for open dialogue can contribute to establishing this trust and fostering their confidence in seeking medical assistance.

3. Optimize collaboration between schools and healthcare providers:

Despite the importance of the school's role, the potential collaboration between educational institutions and healthcare providers is not fully utilized. While schools often have psychologists, not all students are aware of their availability. Moreover, communication between school staff and doctors remains unexploited, with doctors primarily interacting with school administrators rather than teachers directly. This communication gap hinders effective support for students. Parents frequently seek confirmation from teachers, but they may not receive the necessary assistance. Therefore, it is crucial to strengthen communication channels and encourage collaboration between school staff and healthcare professionals to provide comprehensive support to students.

4. Involve associations as promoters of health:

Associations can play a pivotal role in bridging the gap between teachers and school psychologists by providing valuable information and organizing lectures with experts from their network, specifically addressing eating disorders. By organizing training events, associations can significantly contribute to raising awareness and understanding of these issues. This collaborative approach ensures that a broader network of individuals within the school community receives the necessary knowledge and support to address mental health concerns effectively.

7.2.3 Conceptualization

Once elaborated the key insights it was structured an idea of intervention that took into consideration the main challenges that emerged.

The idea was to create a service that provides workshops that help the school community to acquire knowledge about eating disorders offering tailored activities to students, teachers, and parents in partnership with local associations and the healthcare system.

The goal was to raise awareness in the school community, empowering students and individuals and helping in reducing stigma to encourage people to seek help.

The organization planned to hold a series of afternoons during the academic year aimed precisely at education and awareness of eating disorders. The structure included workshops aimed at teachers and parents, taught by volunteers from the association, and with the goal of learning how to support young people's body image and leveraging the importance of preventive intervention. It then secondly provided for interventions aimed at students where the goal was for a trained teacher or clinician to conduct interventions in order to develop a positive body image. Having then developed the concept idea, the health prevention department was shown in order to understand whether the implementation of this type of intervention was possible and in order to get feedback on its implementation.

7.3 Concept review with the Health Prevention Department

By contacting the health prevention department's representative the goal was to gain knowledge about the path followed to structure the educational programs currently developed in the schools. Subsequently sharing with her what is was collected in the co-design activity with the association, and understanding how to go for further directions. I add the opportunity to get a discussion with Cinzia Vivori which elaborated the structure of the department and the current challenges they are facing.

The department's methodology for proposing interventions to schools is based on a thematic approach. They develop various interventions, categorize them

based on themes, and then determine the appropriate direction for each project. These projects are directly proposed to schools through the Iprase platform, which was specifically designed by the provincial Institute for educational experimentation in Trento. The platform serves as a hub for sharing information not only with teachers but also with other key figures in the school environment, including educators, psychologists, and internal staff. Since the beginning of the year 2023, schools have had the opportunity to participate in the Schools Promoting Health project, which is a European movement focused on a comprehensive approach to health promotion. The project not only implements programs but also works on enhancing the entire school environment, with a specific focus on areas such as healthy eating, promoting physical activity, substance prevention, and mental well-being, particularly related to the prevention of eating disorders. The project's objectives include providing training for teachers on the topic of eating disorders and offering targeted interventions to students to develop individual skills and promote mental well-being. These interventions are implemented using alternative methodologies, and currently, there is an emphasis on promoting peer education courses through experimentation. In addition, the department actively encourages students to utilize available services by developing projects that raise awareness about local resources. For instance, in the context of sex education, they may organize visits to advise centers. Throughout the implementation of interventions in classrooms, the department maintains contact and collaborates with various associations to develop projects. This network of communication and collaboration between the health prevention department, schools, and associations ensures the successful execution of initiatives aimed at promoting student well-being.

7.3.1 Challenges raised

However, there appear to be some limitations in creating a programme aimed solely at intervention on eating disorders.

The elements that have been shown to be most effective in preventing eating disorders in the school environment are: working on the individual abilities of individual students, developing activities aimed at self-knowledge and promoting participation;

When dealing with eating disorders with students, using testimonials is not always one of the best choices. While sharing a gift experience works, in other areas it is more difficult and there is a risk that the wrong message will be intercepted. In young people, critical thinking is not yet fully developed and it may happen that, when evaluating a testimony, the young person may think about self-damage because then he/she will be sure to find a way out;

On the other hand, for the same reasons it can be tricky to explain to a young person what eating disorders are, so it is more effective to train young people in appreciating their own body image, managing their emotions and working on critical thinking.

Hence it emerged the need to rework the idea of concept in a more comprehensive manner by instituting a process that leads more to developing awareness in students.

"Young people need to be trained on body image, emotion management, self-esteem and in general on critical thinking"

Cinzia Vivori, 2023

The service

The next chapter aims to describe in detail how the service works by describing the service offering and the details of its operation.

7.4 Service Overview

Voce is a service designed to empower adolescents in exploring health-related topics of their interest in an interactive and exploratory manner. It provides students with a collaborative toolkit that promotes discussion and encourages reflection on their personal interests. By collaborating with the health prevention department, Voce allows students to contribute their inputs, which are then transformed into actionable needs, leading to further actions and initiatives.

One of the key features of Voce is its clustering tool, which helps identify common needs among students. By clustering these needs, the service can provide relevant materials and resources to support the creation of engaging lessons and activities. This comprehensive journey aims to actively involve students in the development of health programs, ensuring that the system becomes more student-centered.

Voce goes beyond traditional approaches by empowering students to take an active role in shaping their health education. It fosters a sense of ownership and agency, allowing students to explore topics of their choice and contribute to the creation of impactful health initiatives. Through this collaborative and student-centered approach, Voce aims to enhance students' understanding of health-related matters and promote their overall well-being.

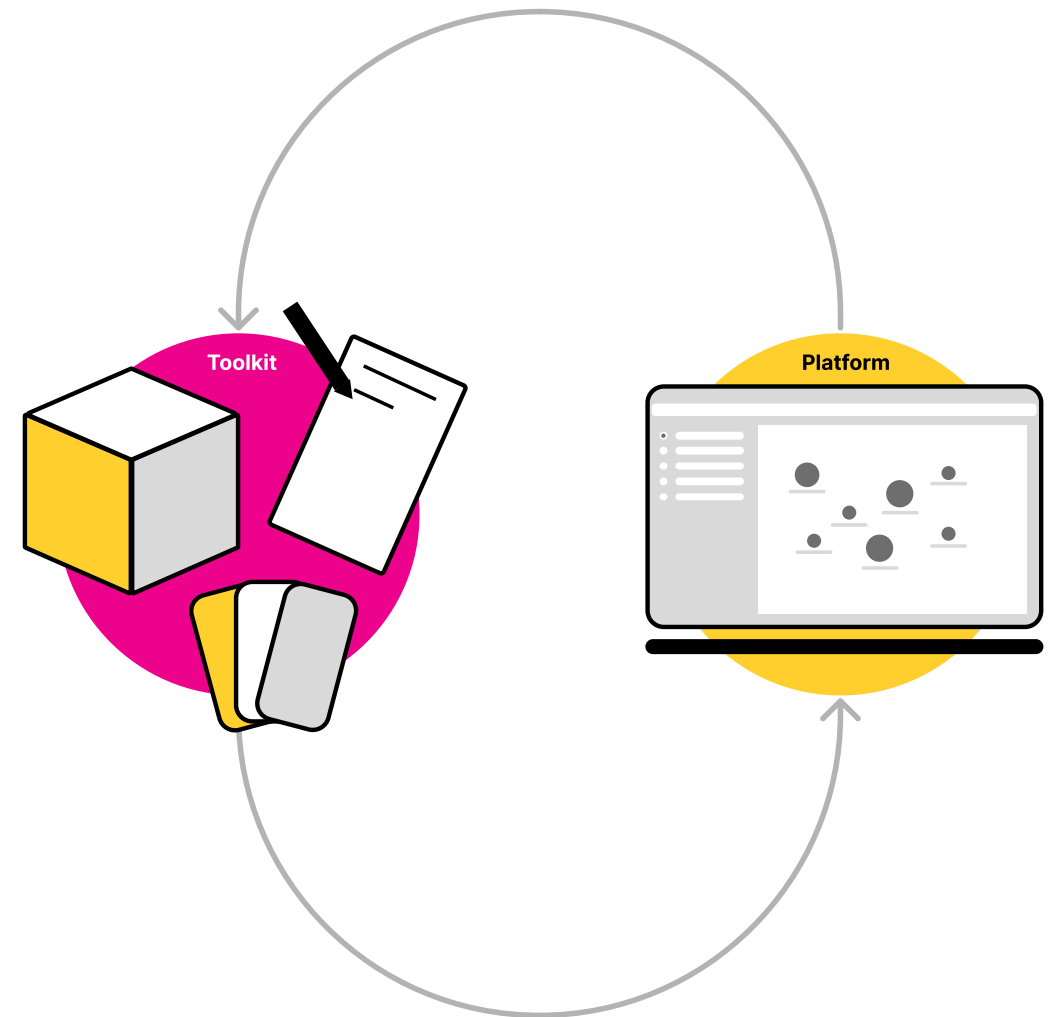


FIG. 22.
Overview of the touchpoints of the service

7.4.2 Service Offer

The service includes collaboration with the health prevention department to distribute various initiatives:

Needs gathering

This section focuses on methodologies to gain insight into the health topics that young individuals are most interested in. The provided toolkit enables the health prevention department to guide needs gathering workshops and initiate discussions to identify relevant topics.

- Support materials for the health prevention department to lead workshops in schools, including a presentation, topic cards, and intervention modality cards.
- Assistance in training individuals responsible for managing the needs gathering activity.
- Materials to share with schools, promoting awareness of the service.

School community

The service facilitates the health prevention department's connection with different schools, fostering the establishment of a network of schools dedicated to promoting health. This network provides opportunities for further collaboration and development of health programs.

- A platform featuring a map to easily contact schools and initiate activities.
- Collaboration with schools to incentivize student participation by offering academic credits.

Service offer

This section focuses on transforming the gathered insights from different schools into tangible data accessible to the healthcare department.

- A platform enabling the collection of proposals
- Clustering functionality within the platform to categorize topics based on uploaded content.
- Sub-categorization of content to provide detailed visibility into emerging themes and identified modes of intervention proposed by students.

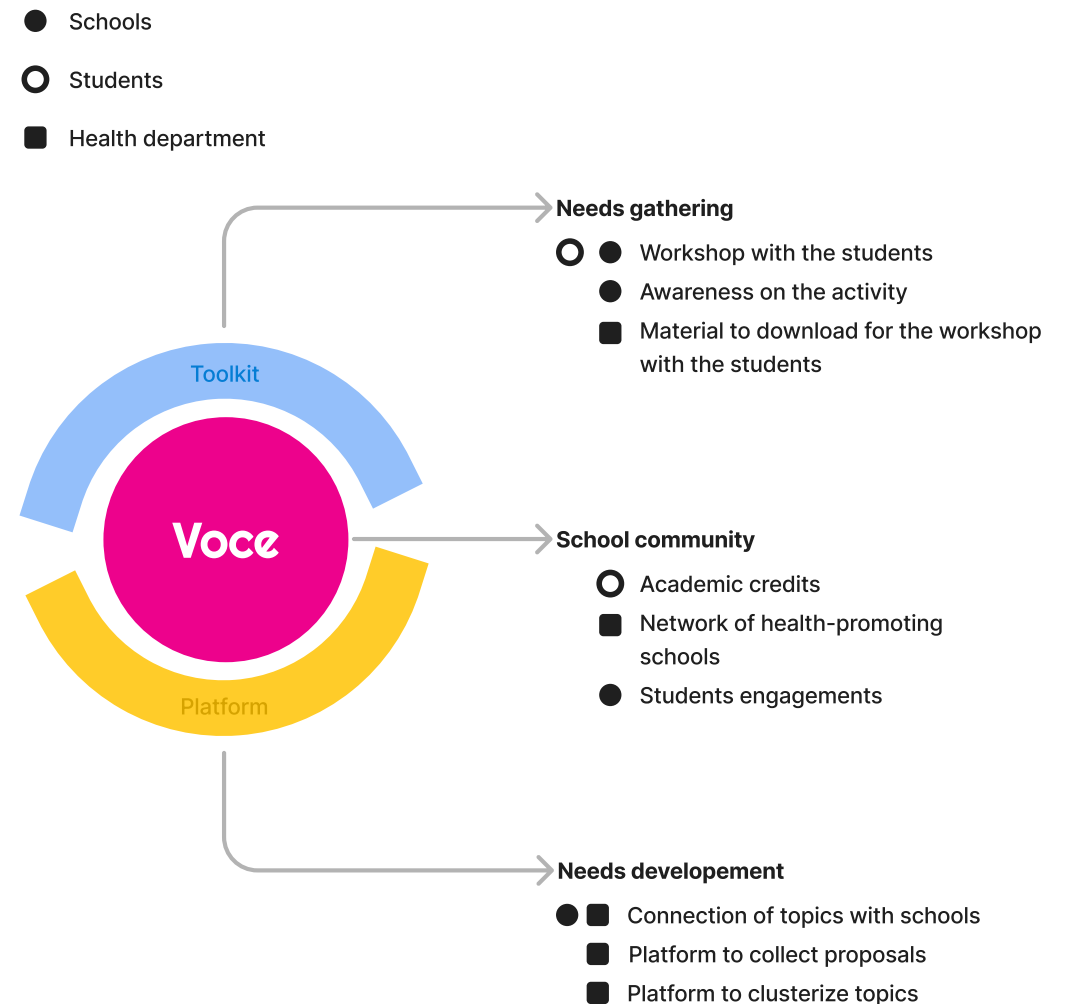


FIG. 23. Offering map

7.4.3 Stakeholder Map

The Stakeholder Map provides an overview of the key actors involved in the Voce service. These actors are categorized into four levels: internal, primary, secondary, and tertiary.

Internal Level

This level comprises the staff members, including platform developers, designers, and others who work collaboratively with the Healthcare department. Their involvement in training individuals to lead activities and their close collaboration with us makes them internal stakeholders.

Primary stakeholders

Primary stakeholders include students, schools, and teachers. Among these, students and their active participation are of most importance for the success and sustainability of the service. The design of the service primarily focuses on enhancing students' abilities and promoting their active engagement.

Secondary stakeholders

Secondary stakeholders are actors who provide support to the healthcare department in the implementation of programs. They play a significant role in assisting with the realization of the service's objectives.

Tertiary stakeholder

Tertiary stakeholders offer additional support in the operation of the service. While they may not be directly involved in the core activities, their contributions help facilitate the functioning and effectiveness of the service.

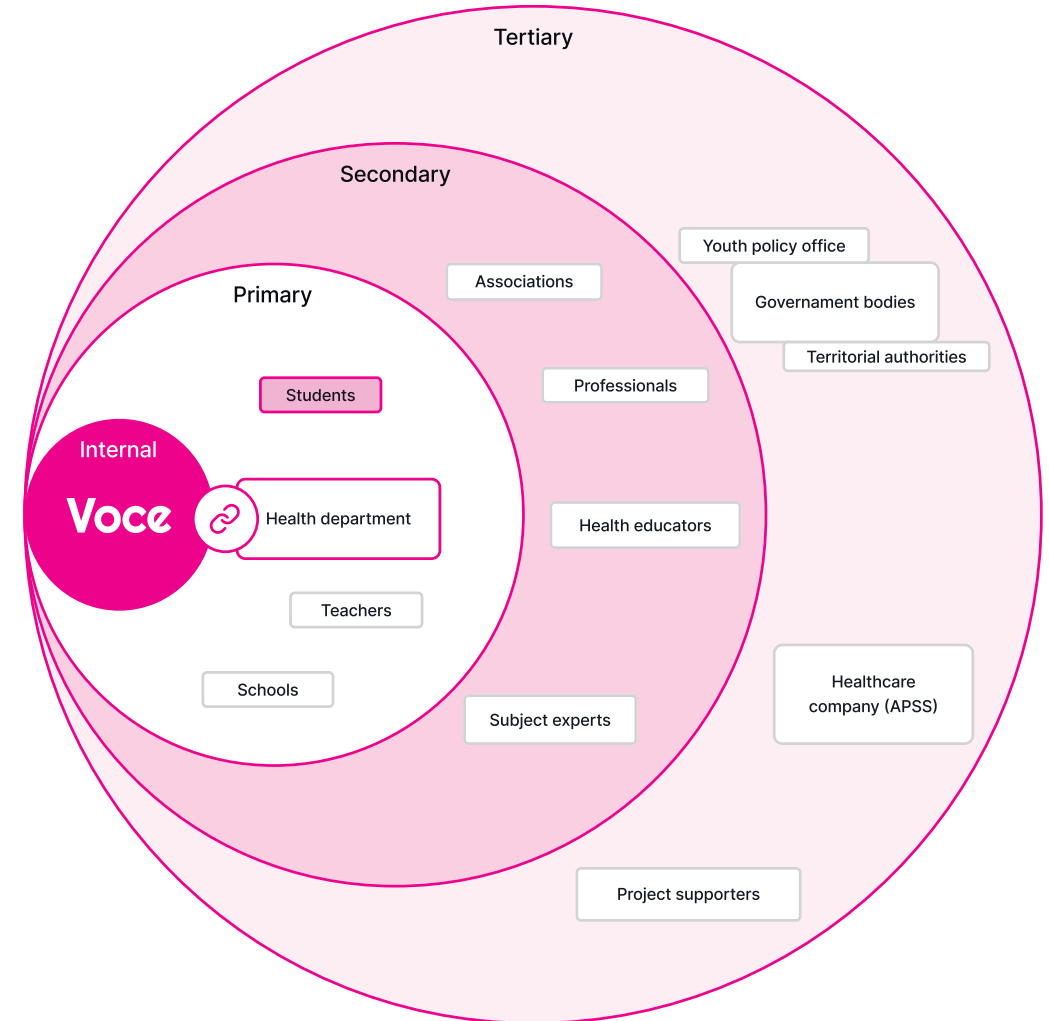


FIG. 24. Stakeholder map

7.4.3 Stakeholder Description

Health prevention department

Internal actor and primary stakeholder responsible for implementing health education interventions in schools.

ROLES

- Maintain contact with the service for the distribution of workshops.
- Train individuals to lead the workshops.
- Provide consultation on emerging themes for the development of health education programs.
- Establish contact with potential partners such as associations, subject experts, and educators.
- Review the lesson with students once the program is developed.

INCENTIVES

- Ability to implement programs aligned with students' needs.
- Promotion of a comprehensive school approach.
- Enhanced communication between students and the health prevention department.
- Increased exposure of services within the province.

Schools - Head teacher

Primary stakeholders of secondary schools in the whole province of Trento, who enable the implementation of the activities.

ROLES

- Maintain contact with the health prevention department
- Keep up to date with activities and materials made available by the health prevention department
- Accepting health education programs
- Promote the activity to students, creating the working group
- Hosting the proposed activities

INCENTIVES

- Empowering students to explore more current health-related topics
- Increasing the school's academic well-being

Schools - Students

Primary users, will be students from third and fourth grade of secondary schools.

ROLES

- Participate in needs-gathering activities
- Review the lesson with the healthcare department
- Give feedback on points of action and modalities of intervention to the health prevention department
- Create a connection with peers
- To reflect on their personal behavior

INCENTIVES

- School credits
- Opportunity for analysis of current health-related issues
- Opportunity for discussion with peers
- Build on their personal skills

Associations - Professional -Subject experts - Health Educators

Secondary users, which will be figures of the region of Trento contacted by the health prevention department through calls for proposals.

ROLES

- Share knowledge with the health prevention department
- Give availability for interventions in schools
- Help in creating the programs

INCENTIVES

- Recognition of giving back and helping the society
- To spread awareness about their role

Government bodies

These include the youth policy office and territorial authorities which enable the implementation of the activities in the province.

ROLES

- Maintaining relationships with the health prevention department for the realization of the project
- Fund the project
- Give availability to the health prevention department to research on the project and implement it
- Give resources to build the database

INCENTIVES

- Data regarding qualitative interests of students
- Promote students participation
- Increasing the school's academic well-being

7.4.4 Service System

The System Map illustrates the interconnected relationships between actors, highlighting the exchange of value through the flow of information, materials, and finances.

Regarding the exchange of information, there is a reciprocal flow between the school and the healthcare department facilitated by the gathering needs toolkit and the platform. The healthcare department, in partnership with the schools, ensures that information about the service is effectively delivered, raising awareness among school communities. Additionally, it is the responsibility of the department to maintain communication with other associations and share knowledge to enhance the delivery of educational programs.

In terms of finances, the service is designed to be free for schools and students, aligning with the objectives of the network of schools promoting health. As a result, the primary financial flow occurs between government bodies and the healthcare department, given their collaborative relationship. These funds are allocated to remunerate the individuals leading activities in schools, as well as to create materials for the toolkits and further develop the platforms.

The shared materials encompass resources necessary for conducting activities in schools. These materials are received by the healthcare department and subsequently utilized in schools on predefined days. Moreover, the information shared includes the collection of insights and data, which is made accessible to the healthcare department, schools, and other government bodies. This enables the sharing of the impact achieved through the carried-out activities.

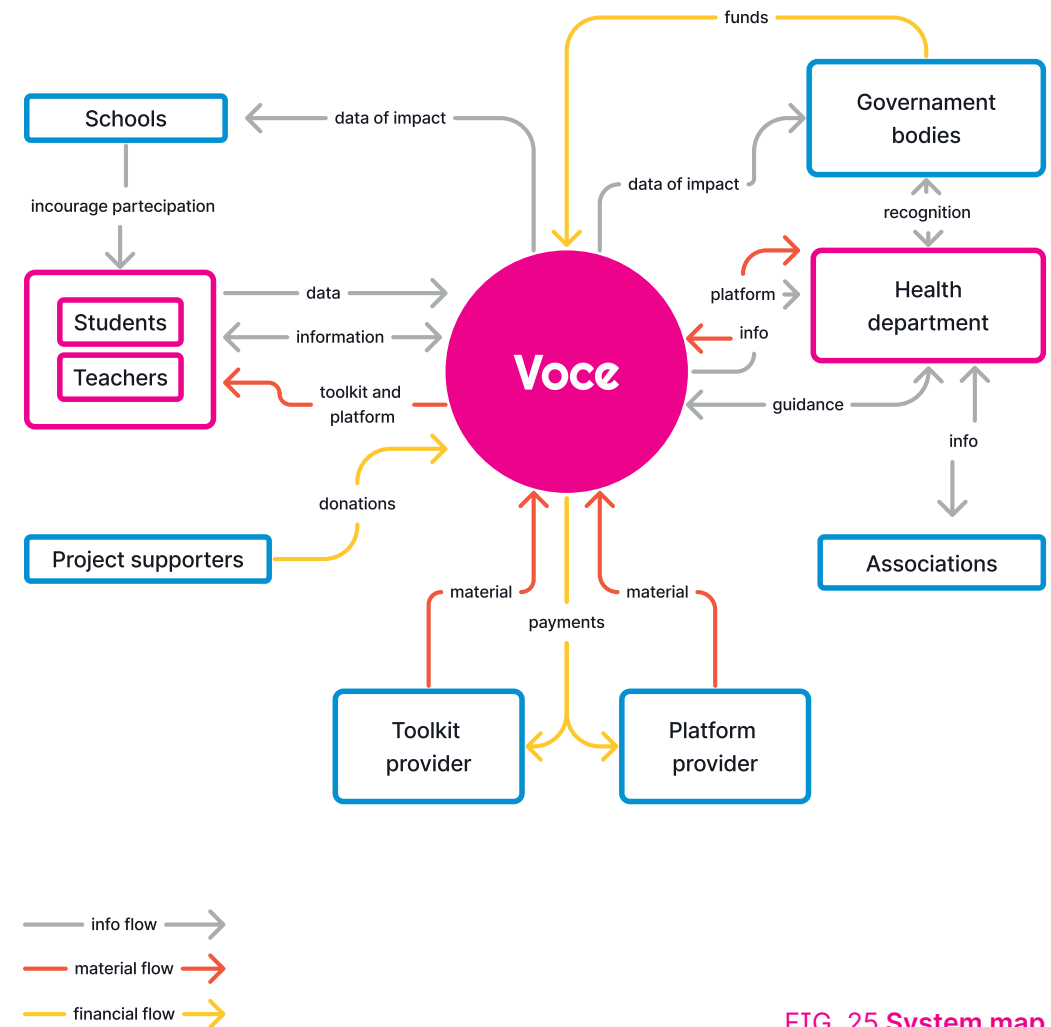


FIG. 25. System map

7.4.5 Process Overview

In order to provide a more comprehensive understanding of how the relationships between the actors unfold and progress, a detailed map has been developed. This map aims to outline the sequential steps involved in the interactions and shed light on the essential touchpoints required for effective collaboration.

1. Initial contact: The service Voce initiates contact with the health prevention department to establish a collaborative partnership. This contact is made through channels such as email, phone calls, or by activating the collaboration with government bodies.
2. Application to school: The health prevention department, using the platform, selects the schools and proposes the activities to the head teachers. This communication occurs through a combination of platform interactions, emails, and calls.
3. Schools adhesion: The head teachers accept the intervention and create a group of 15 students from the third/fourth grade of each school. This step involves sending emails and issuing a call to action for students to participate.
4. Voce team training: Upon receiving memberships from the selected schools, the health prevention department forms an internal team called the Voce team. This team undergoes training using an internal training platform, such as IPRASE, to prepare them for implementing the workshops in schools.
5. Gathering needs workshop: The Voce team visits the schools and leads workshops to gather the interests of the students. These workshops serve as an interactive touchpoint for collecting valuable insights. A toolkit is used to facilitate the workshop process.
6. Uploading proposals: The Voce team uploads the data collected from the workshops onto the platform. This step ensures that the content from different schools is aggregated and accessible for further analysis.

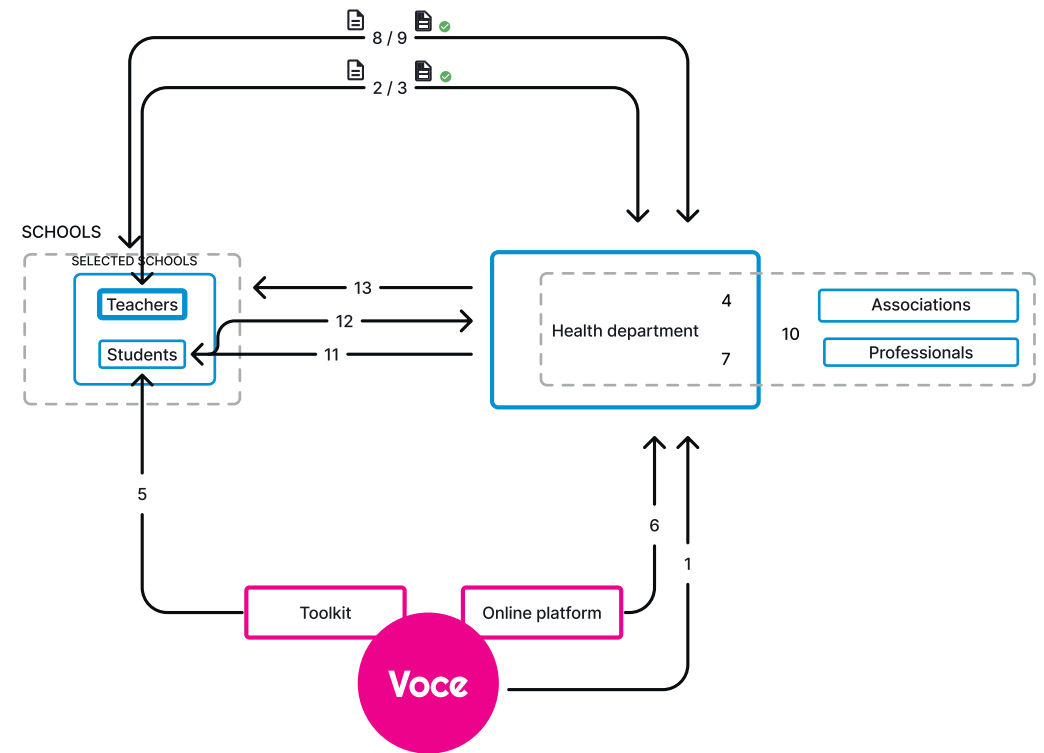


FIG. 26. Service process

7. Detailing the program: The health prevention department consults the platform to gain insights and starts developing a program sheet based on the topic that has garnered significant content. This sheet serves as a reference for further program development and is also used in conjunction with other evidence data collected through surveillance systems.
8. Schools proposal: The health prevention department develops an educational program sheet on the selected topic and proposes it to all the schools. This step involves sending emails and using internal platforms like IPRASE to share the educational programs and gather feedback
9. Specific topic adhesion: The head departments of different schools review the proposed intervention in

the particular topic and give their acceptance. This process involves communication through email and internal platform interactions.

10. Lesson creation: The health prevention department, in collaboration with partners, details the material for the interventions, establishes contact with the partners, and finalizes the presentation for the lessons. This step requires coordination and communication with the partners involved.
11. Pilot lesson: A selected school is chosen to validate the lesson created with the previous group of students. This touchpoint involves interactions through the platform, workshops, and a review of the lesson based on the inputs received from the students.
12. Lesson review: After collecting inputs from the students, the health prevention department finalizes the intervention to ensure its readiness for delivery. This step involves reviewing and refining the lesson based on the feedback received.
13. Lesson delivery: The completed lesson is now ready to be delivered to all the schools starting from the new academic year. This marks the culmination of the process, and the lesson materials are shared with the schools for implementation.

7.4.6 User journeys

In the context of the health education initiative presented, gaining a deep understanding of the user journeys of key actors is essential for designing effective programs and promoting meaningful engagement. This chapter explores the user journeys of three primary actors who hold pivotal roles in the process: the students, who actively participate in workshops to explore health-related topics; the head teacher, who plays a crucial role in activating the activities within the school; and the health prevention department, responsible for motivating schools to participate in the project and conducting data analysis. Each actor brings unique contributions to the implementation and success of health-related workshops, ultimately fostering a student-centered approach to health education.

Personas

Student

BIO

Alessia
17 anni
4 liceo classico

Alessia is a vibrant and compassionate high school student, she is very good at school and in her spare time she practices modern dance with a group of friends. She has always had a curious mind and a deep sense of empathy towards others so she likes to stay with her group. She likes to dance to release the stress generate by the school but, despite her genuine enthusiasm, Alessia battles with the fear of judgment from the adults around her, she often feels hesitant to open herself to others because she worried that she may be perceived as different or misunderstood.

GOALS AND NEEDS

- Sense the impacts of its actions
- Understand better herself and her feelings
- Raise awareness and contribute to the wellbeing of her peers

PAIN POINTS

- She escapes from her thoughts by doing some practical activities but feels they are not solved
- She feels is difficult to open up to adults and has the feeling of not being listened



"Sometimes I feel that practicing dance is not enough and I would like to have a space where to share my emotions"

FIG. 27. Student user journey

Time	January	February	March	March	
Action	Awareness	Application	Call to action	First Workshop	
Detail	Her teacher propose the activity to the class explaining it to everyone and telling that he would like three students to participate	She decides to participate and give her name to the professor	She is contacted by the professor and its given her a date and a location where to go to do the activity	Its the day of the first workshop and she goes to the space outline for doing the activity, she meets other the group of 10 students from her school	She is introduced to the activity the group will be doing that day and the activity starts with a ice-braking activity so that the team gets to collaborate
Touchpoint	Professor, Voce call to action on school website	Professor	Professor	Workshop, Voce team	Workshop, Voce team
Emotions					

Time				April → Sept	September
Action				Post Workshop	Second Workshop
Detail	Everyone is inclined to talk and write down their doubts on the toolkit cube	At the end of the first activity all the needs are read out listing them in actions through the sheet	When collecting the needs the group is stimulated to think about which modality could fit for the intervention and start the discussion thanks to the cards	She is trilled to see how their needs will be translated into the health programm	She contacted again by the professor to participate to another workshop to create the lesson together with the health department
Touchpoint	Workshop, Voce team, toolkit cube	Workshop, Voce team, toolkit template	Workshop, Voce team, toolkit template, cards		Professor
Emotions					

Time	Oct → Dec		
Action	Lessons delivery		
Detail	During the workshop the group made up of the previous group of students and the experts of the health department has the occasion to develop further the lesson accordig to what was previously decided	The group of student give feedback to the health department on what can be improved	After the improvement done during the second workshop the lesson is ready to be delivered in all the schools and she can attend to the lesson during the year with her classmates
Touchpoint	Workshop with the personal of the health department	Workshop with the personal of the health department	Health department professionals, Lessons
Emotions			

Personas
Head teacher

BIO

Alberto
47 anni
Head teacher

Alberto is a passionate teacher that recognize the urgent need for comprehensive education that goes beyond the basics. In his classes he practices some activities who include working in group and promote debates in order to make his student more participant. He firmly believes that students should be active participants in their own education, rather than passive recipients of information. Sometimes he has the feelings that his students are not interested during the lessons but he can't understand why.

GOALS AND NEEDS

- Foster students empowerment
- Find ways to understand students needs
- Find new ways to promote participation within students

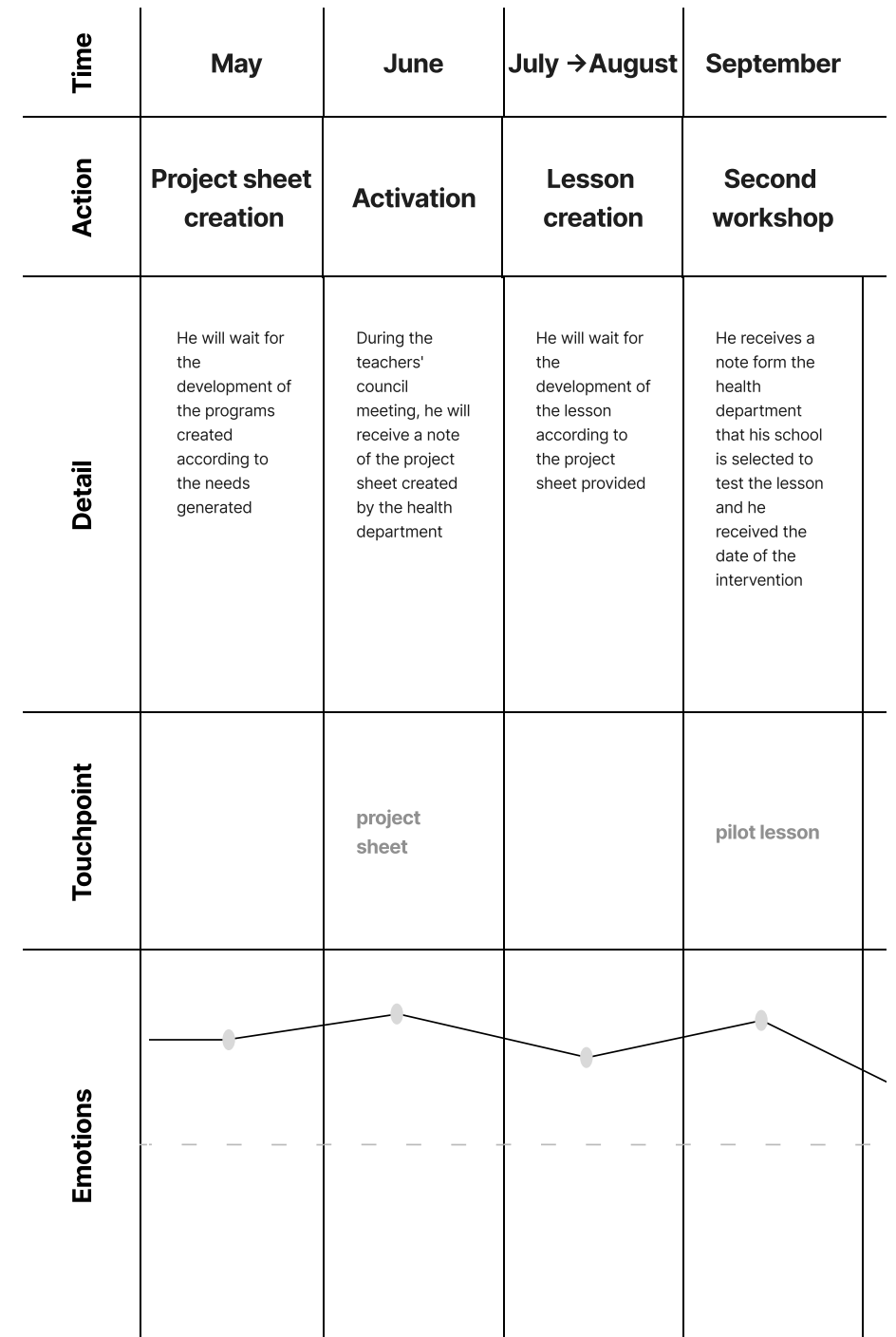
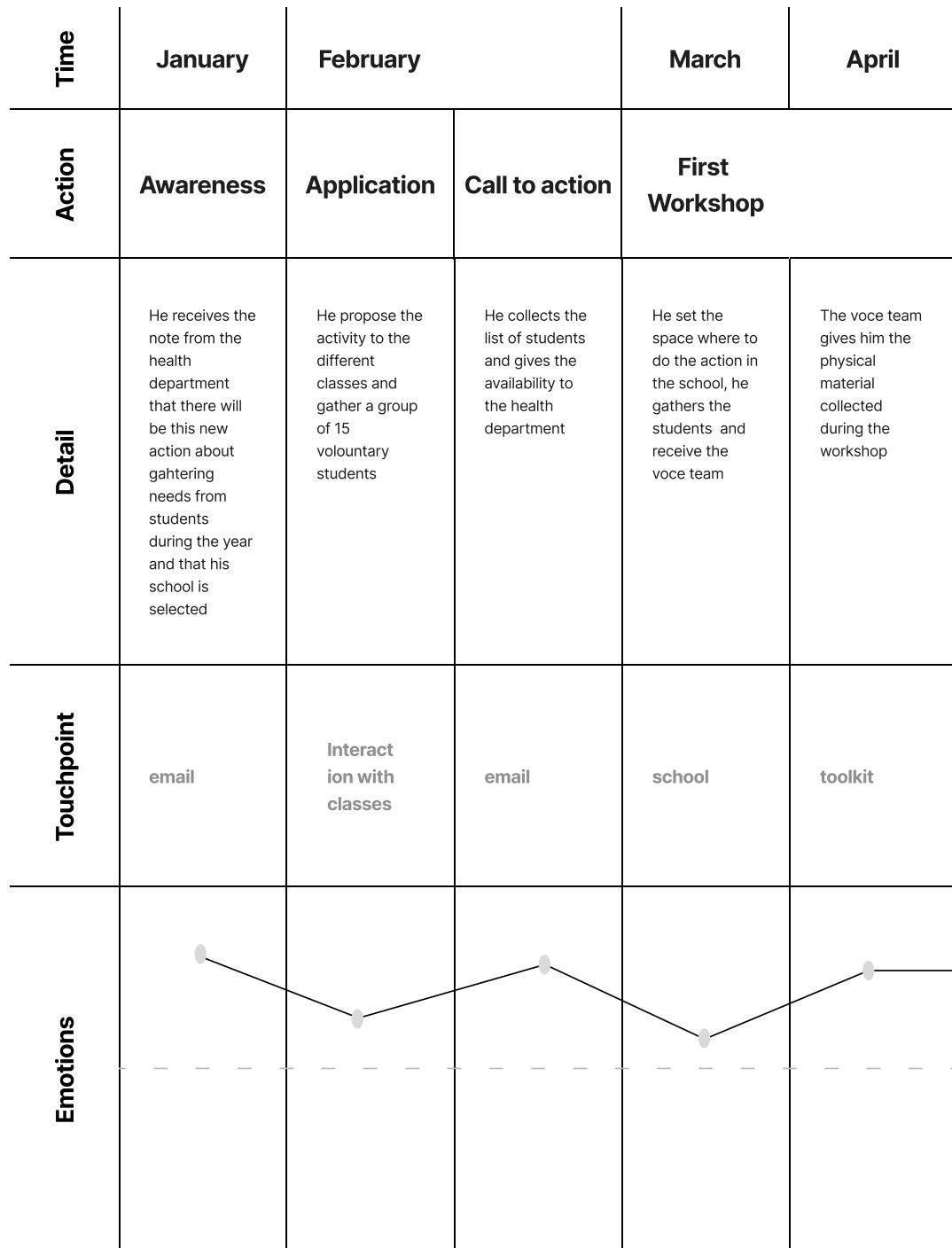
PAIN POINTS

- Feels overwhelmed and responsabilized by the inability to help his students
- He wants to create a positive school enviroment but has difficulties in finding the right tools

"I believe that students feel more motivated when they come up with their own ideas and see direct results from their participation. It makes them feel empowered and eager to be involved"



FIG. 28. Head teacher user journey



Time		October	Nov → Dec
Action		Lesson Delivery	
Detail	He notifies the previous group of students and set the space where to do pilot lesson in the school	With the data collected he receives the lesson ultimated with the plan of action for the school year	The lessons are delivered in the school
Touchpoint	school	mail lesson	lesson
Emotions			

Personas

Health prevention department professional

BIO

Sara
52 anni
Team member
of health
prevention
department

Sara is a member of the health department team, dedicated to developing effective and engaging health educational programs for schools. With a background in nursing and a deep commitment to improving the well-being of young individuals, Sara plays a pivotal role in shaping the health curriculum that reaches students across various schools. She structures the programs starting from the evidence of epidemiological questionnaires but she feel the importance of tailoring more the programs, to address the specific health needs.

GOALS AND NEEDS

- Promote active learning and participation among students
- She want to seek inputs from others
- Encourage student to make informed decision about their wellbeing

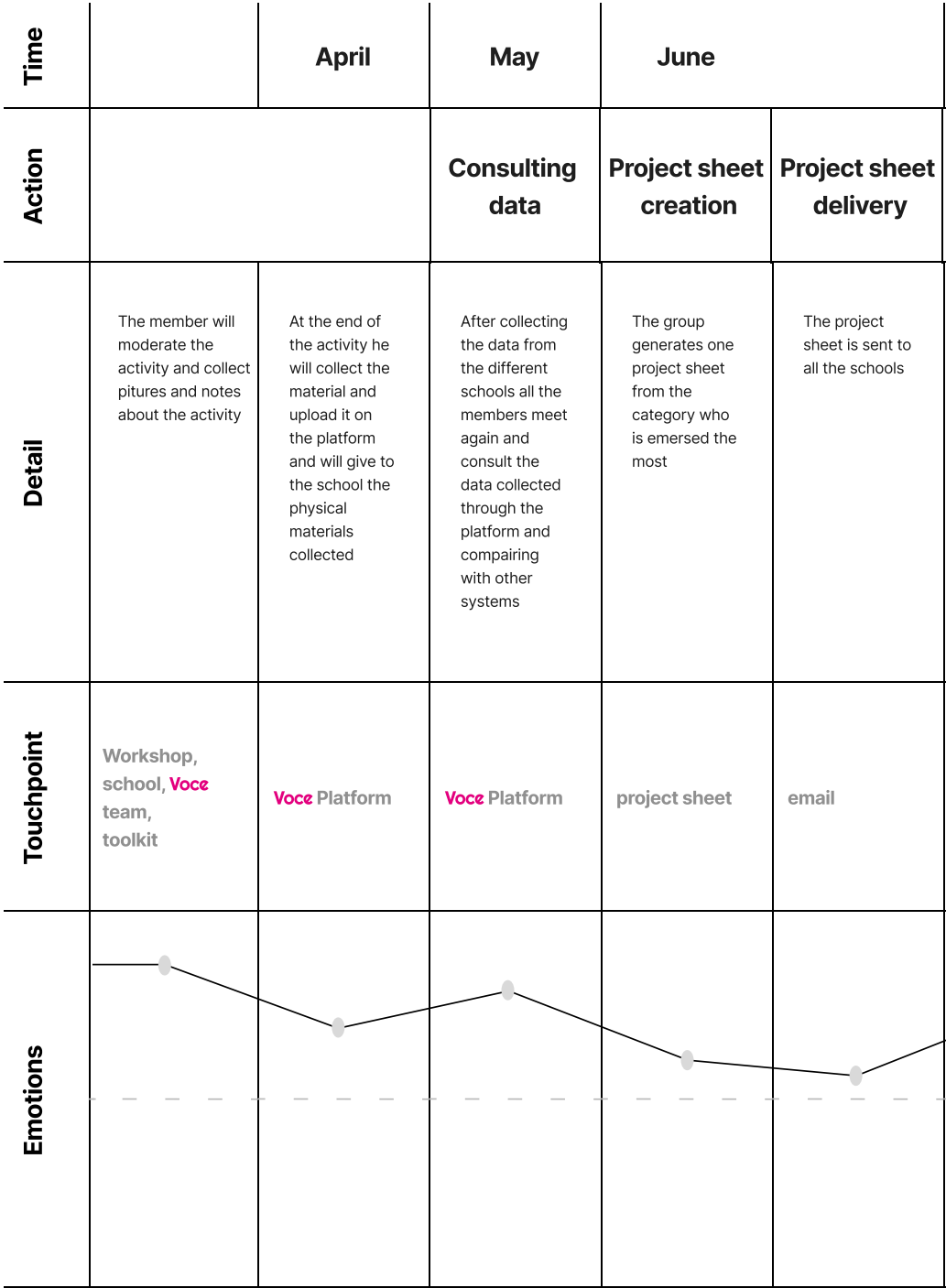
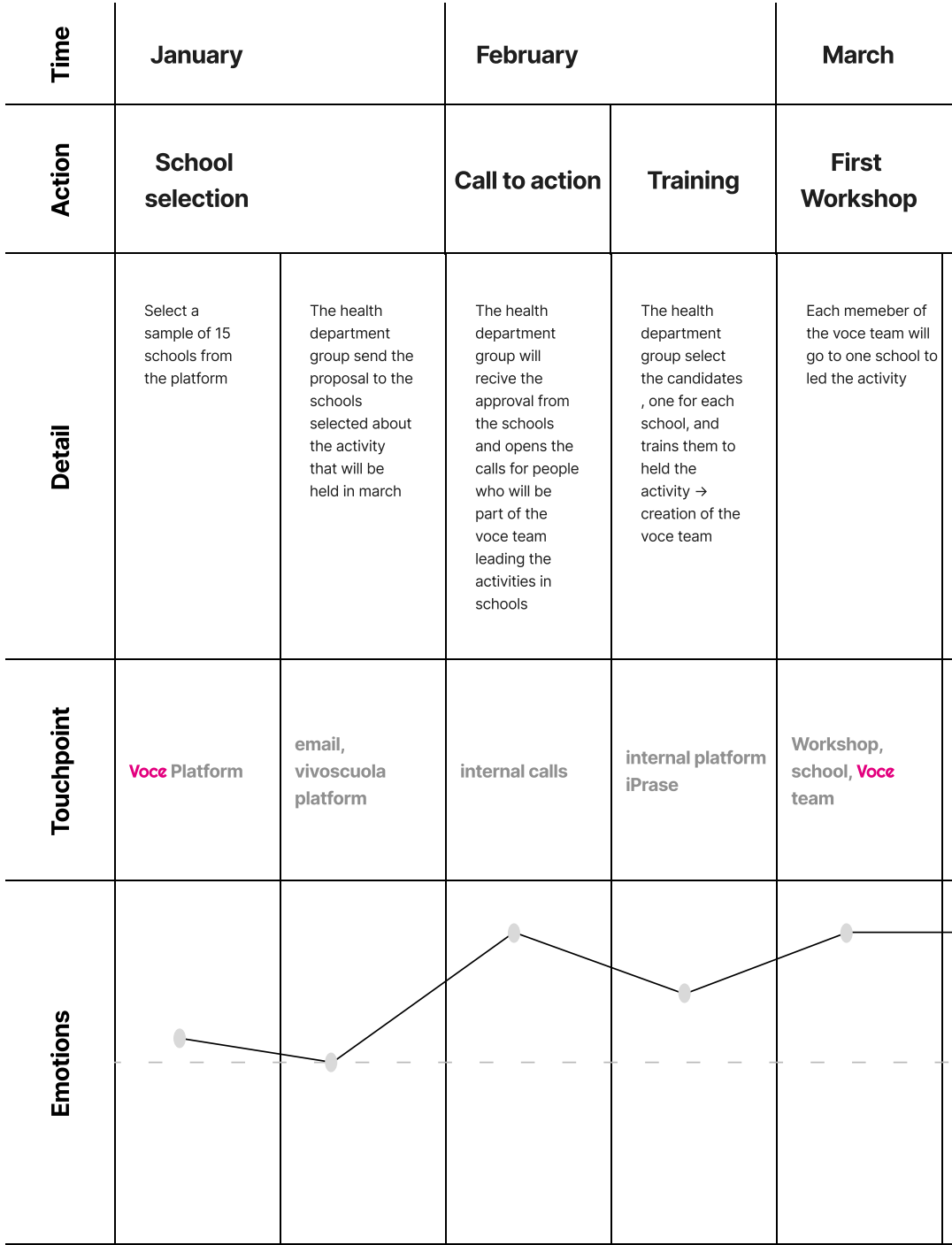
PAIN POINTS

- She thinks that current systems to gain data are sometimes limited since are not directed to all the schools
- Sometimes she feels her programs have a low impact on schools



"Since the last year we have been trying to combine data on well-being together with data on education, but it is difficult to understand the relationship and there are too many variables"

FIG. 29. Health department professional user journey

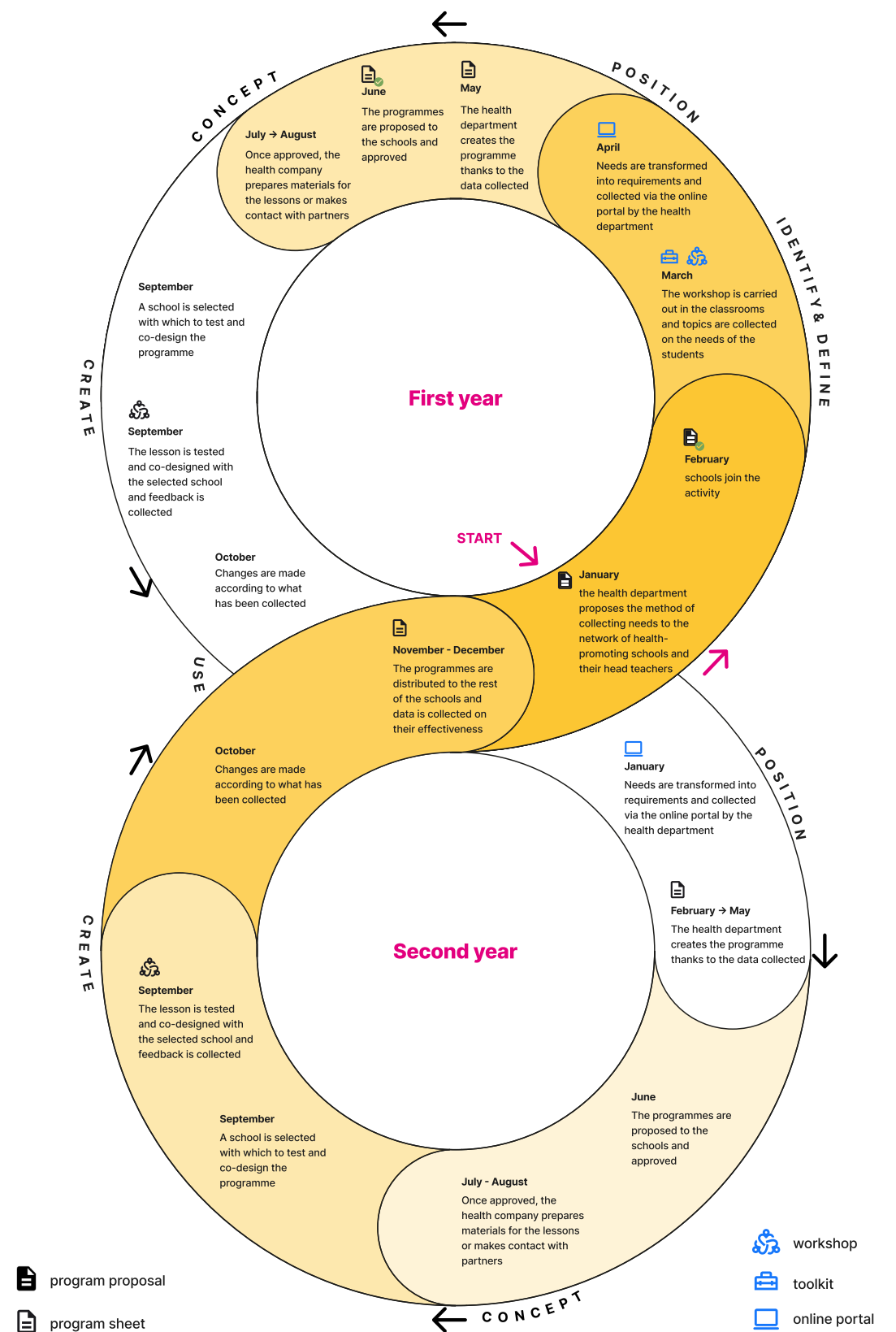


Time	July → Aug	September		October	Nov→Dec
Action	Lesson creation	Lesson feedback		Lesson changes	Lesson delivery
Detail	The health department group defines the figure who will led the lesson and ceates the material	The health departement select one school to test the lesson with some students	The figure defined goes to the school and test the lesson with the student gaining feedbacks	The team modifies the lesson according on what is collected	The health departement delivers the lesson to all the classes
Touchpoint	project sheet, partners	Voce Platform	pilot lesson, school	lesson	school
Emotions					

7.4.7 Service loop

The following map provides a comprehensive overview of the time development for each stage of the service, spanning a two-year plan. This plan is designed to align with the existing procedures followed by the health prevention department in the development of educational programs. By mapping out the timeline for each stage, we aim to ensure a seamless integration of the service into the department's workflow, maximizing efficiency and effectiveness. This detailed map serves as a valuable reference, enabling us to closely follow the established procedures while implementing the service and delivering impactful health education programs.

FIG. 30. Service loop map



Design process Development

Design process Development

8.1 Introduction

This chapter delves deeper into the touchpoints that facilitate the implementation of the intervention typology established earlier. Two key components, the toolkit and the platform, play a fundamental role in this process and will be discussed in greater detail in the subsequent sections. To ensure their effectiveness and alignment with project objectives, the toolkit and platform were subjected to testing with direct stakeholders. Two separate sessions involving groups of students and the health prevention department were conducted. Initially, the toolkit's content was evaluated, followed by a detailed examination of the platform. This iterative approach aimed to refine and enhance the artifacts, striving to match existing tools and practices utilized by stakeholders closely. The insights gained from these testing sessions allowed us to refine the toolkit and platform, ensuring they meet the project's specific needs. By engaging with the direct stakeholders, we were able to incorporate their valuable feedback and make necessary improvements, ultimately enhancing the functionality and user experience of these essential components.

8.2 Service touchpoints

These artifacts were created by incorporating the insights gathered from the research conducted and by referencing established service design practices for the development of the toolkit activities. The goal was to ensure that the activities included in the toolkit are effective, engaging, and aligned with the needs of the target audience.

In the case of the platform, a different approach was taken. It was crucial to directly engage with the health

prevention department to understand their specific needs and requirements. This allowed us to translate those needs into a well-designed and functional platform. Additionally, consulting the existing portal provided valuable insights and guidance for implementing a seamless intervention that integrates with the current infrastructure.

By combining research findings, service design best practices, and direct collaboration with the health prevention department, both the toolkit and the platform were developed to meet the unique demands of the project. The result is a comprehensive set of tools and an intuitive platform that support the successful implementation of the intervention and contribute to a positive user experience.

8.2.1 Toolkit for students: gathering needs

To bring students' perspectives and translate student interests in health-related topics in actual actions, the toolkit has been shaped with the intent of being suitable for the target people of adolescents promoting activities that enable participation of everyone. The toolkit is designed with activities that will be led in groups in order to promote collaboration and a group spirit as well as some individual reflections, always moderated to be shared with all the group. The output will be a structured collection of interests giving the ability to explore themselves and share their feeling openly without being judged. The toolkit includes:



FIG. 31. Materials of the toolkit

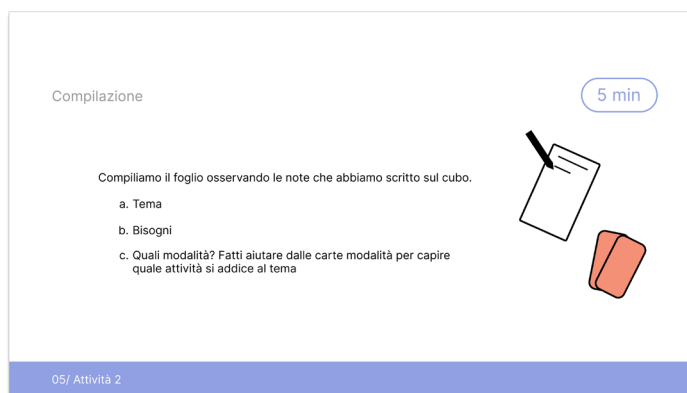
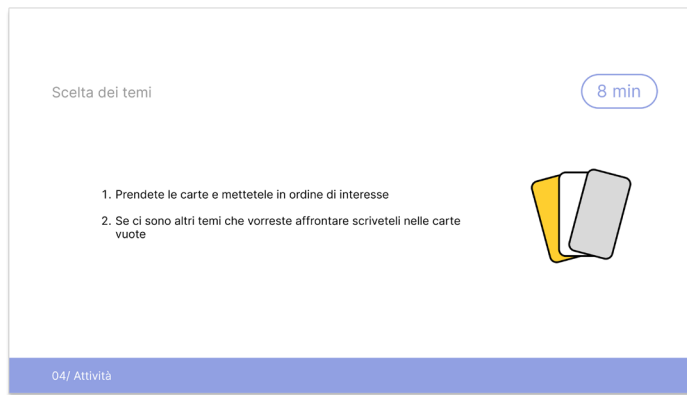


FIG. 32. Some slides of the presentation

1. A comprehensive presentation

That serves as a guide for conducting the activity. It is structured into three main steps, with each step allocated the appropriate amount of time to ensure an engaging experience for participants.

The first step focuses on reflection and discussion of various topics. Participants will have the opportunity to explore different health-related subjects and engage in thoughtful conversations being inspired by the cards. This step culminates in a decision-making process where the group collectively chooses one topic to delve into further.

The second step emphasizes active participation and inclusive dialogue. Participants are encouraged to share their thoughts and perspectives using a specially designed tool called "the cube." This interactive element creates an inclusive and dynamic environment where everyone can contribute and engage in meaningful discussions.

The third step revolves around selecting a preferred methodology for receiving a lesson on the chosen topic. Participants will use another set of cards that present various teaching approaches. Through group discussion and consensus-building, the most suitable methodology for delivering the lesson will be determined.

2. "Health topic cards"

The toolkit includes a valuable resource known as the "Health Topic Cards," which comprises nine curated topics based on the research. These topics have been identified as the most relevant to students' health and well-being. The selected topics are as follows: mental health, self-esteem, body perception, relationship with social media, the power of words and cyberbullying, sexual education, approach to the general practitioner, alcohol and drug addictions, and nutrition education. Additionally, the toolkit provides two empty cards, allowing for the inclusion of subjects that may not be covered in the initial set. The structure of the health topic cards draws inspiration from service design tools, specifically the issue cards. These cards are designed to stimulate discussion, encourage exploration, facilitate structured thinking, and ignite new ideas. Each card features engaging phrases specifically tailored to resonate with the teenage target audience, ensuring an interactive and relatable experience.

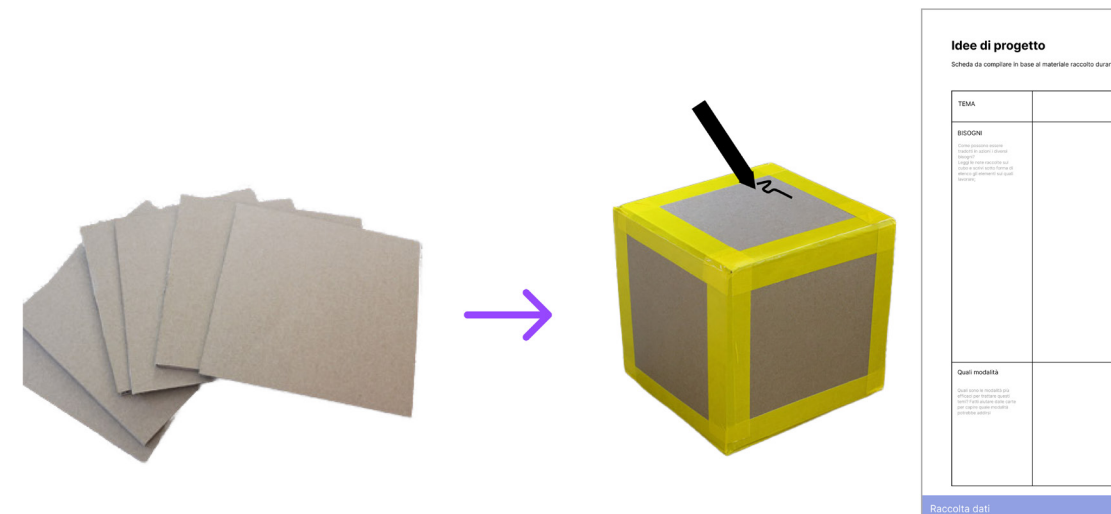
FIG. 33. Some of health topic cards



3. The "Cube"

Another component is the "Cube," which is a versatile cardboard cube designed for writing, note-taking, and illustrating. This interactive activity draws inspiration from the methodologies proposed by the European Network of Health-Promoting Schools, as well as a tool developed by Coventry University (Magee et al., 2015). During the session, the Cube is passed around the group, ensuring that every participant has the opportunity to express themselves and record their thoughts directly on the Cube's surfaces. This interactive process encourages active participation and enables individuals to contribute their perspectives and ideas. The Cube serves as a tangible platform for capturing individual insights, reflections, and visual representations related to the topic at hand. Each topic discussion is allocated to be approximately 20 minutes, allowing for in-depth exploration and meaningful engagement. Throughout the session, as the Cube circulates, participants contribute their thoughts, ideas, and illustrations, creating a collaborative and dynamic experience. The culmination of the activity involves compiling the collective input from the Cube into a more structured sheet, capturing a comprehensive snapshot of the group's perspectives and insights.

FIG. 34. The "Cube" and the collecting inputs sheet



4. "Modality cards"

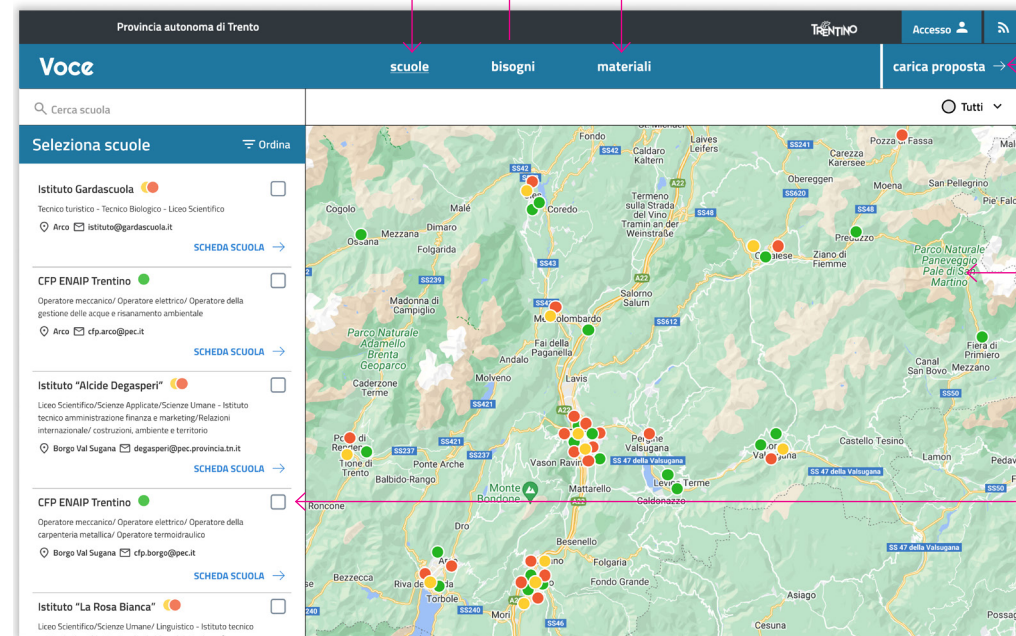
The final component of the activity is the "Modality cards," which will be utilized during the last stage to facilitate a reflection on the most effective learning approach for the topic at hand. These cards present various modalities, such as debates, group work, and video analysis. They serve as a stimulus for students to consider which modality would be most suitable for comprehending a particular topic. Additionally, these cards enable the health prevention department to explore more participatory methodologies in the delivery of lessons, promoting engagement and active involvement.

FIG. 35. The "Modality Cards"



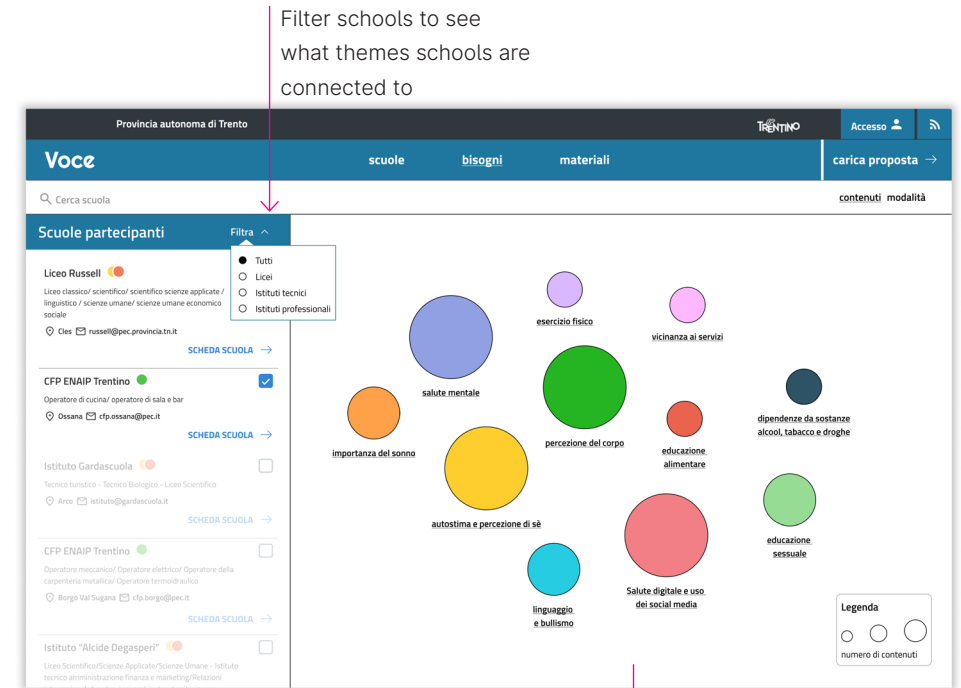
8.2.2 Online portal: collecting needs

In order to effectively gather and centralize the needs from various schools, a platform was developed to serve as a comprehensive repository. This platform serves as a means to collect and organize all the content, making it readily available to the health prevention department. To ensure its successful development, close collaboration was established with the health prevention department and discussions were held with Cinzia to determine the best way to transform the collected content into data suitable for the platform. The platform plays a crucial role in facilitating communication between the department and the different schools. It enables the department to promote the activity, download workshop materials, upload the gathered information, and access comprehensive data that consolidates the needs of all participating schools. This centralized platform streamlines the entire process and ensures efficient coordination and data management throughout the project.



Map of schools and where to make contact

Space where to download the toolkit



Filter schools to see what themes schools are connected to

Space where to upload the content elaborated with the school

Maps of schools present in the territory of the Province of Trento

Essential details of the school, once selected it will highlight in the main map

Overview of topics collected from all the schools

FIG. 36. Interface of the portal

8.3 Toolkit evaluation with students

In order to ensure the comprehensive effectiveness of the toolkit and its alignment with the design process, a series of testing activities were organized and conducted. Drawing inspiration from service design practices and other toolkits, the toolkit was developed based on research results. However, to thoroughly evaluate its impact in various aspects, it was essential to validate its implementation through testing. The first testing activity involved reaching out to a teacher from a school and collaboratively planning the implementation. Together, we identified suitable locations and discussed strategies to effectively engage the students. This hands-on testing allowed us to assess the toolkit's practicality and gather valuable feedback. Due to certain limitations in contacting schools and organizing in-person activities, the second testing activity was conducted online. Despite the challenges, this virtual setting provided an opportunity to overcome logistical barriers and engage with another set of participants.



FIG. 37. Image of the first session

8.3.1 Planning, what was the objective, and materials, and how was it structured

Objectives

- Validate the efficacy of the toolkit in achieving its intended goals.
- Identify the health-related topics that resonate most with students.
- Assess the level of student interest and engagement in participating in such activities.

Participants

During the first session, which took place in person, three students from the ENAIP professional school in Ossana participated. The group consisted of two students from the third grade and one student from the fourth grade.

In the second session, which was conducted online, two students from the Liceo Russell attending the fourth and fifth grades participated.

Set up

For the first session, the workshop was scheduled to take place during an afternoon homework-help activity outside the school premises. These activities are organized at a nearby facility called "Progetto Giovani," which serves as a hub for young individuals. This recreational space offers a diverse array of workshops led by a committed group of educators. It provides a supportive environment where students can receive homework assistance and participate in engaging educational activities. During the session, a suitable space was identified within the Progetto Giovani to conduct the workshop. The materials utilized were the ones of the toolkit and in this context, my role was that of the moderator, guiding and facilitating the workshop to ensure a productive and enriching experience for the participants.

For the subsequent session, the workshop was adapted to an online format. The physical materials were transformed into a digital format using the Figjam platform, providing each participant with the opportunity to access and interact

with the content. The Figjam platform served as a virtual space where students could seamlessly engage, collaborate, and provide comments on the workshop materials.

Structure

The session encompassed a series of diverse activities, guiding the participants through a structured process. The first step involved collectively defining the topic of focus, followed by in-depth discussions and exploration of the chosen topic. Lastly, the participants worked together to identify the most suitable modality for the intervention. It is important to note that the use of cards to moderate the modality of intervention was specifically introduced in the second workshop, adding an additional layer of engagement and interactivity to the session.

Detailed structure

1. Introduction: The activity began with an introduction about myself and the goal of the workshop, which was to gather insights on the students' interests regarding health-related topics.
2. Ice-breaking activity: To create a comfortable and engaging atmosphere, an ice-breaking activity was conducted. In pairs, participants counted up to 3,

FIG. 38. Image of the second session

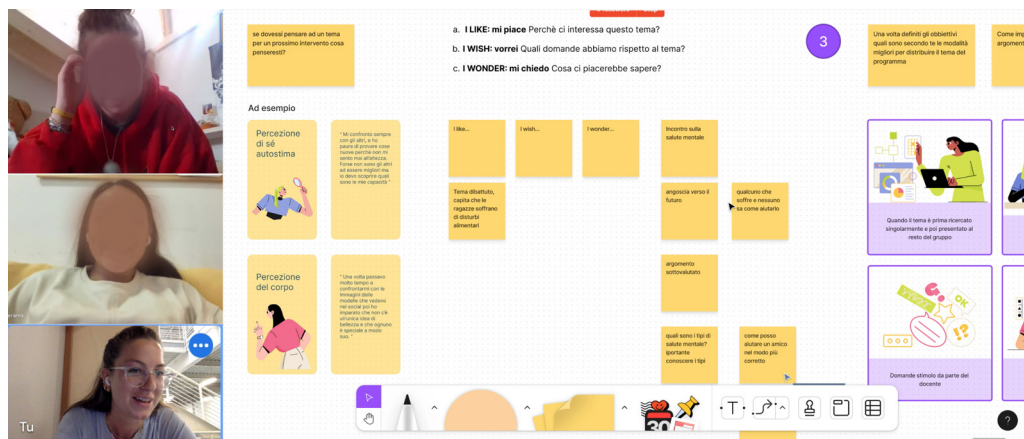


FIG. 39. Image of the first session

replacing "one" with a clap and "two" with a snap of their fingers. This it wasn't elaborated for the activity online.

3. Initial questionnaire: A questionnaire was administered to the students to gain an understanding of their perceptions of current health education programs. Direct questions were asked to gather their thoughts and feedback.
4. Choice of topic: Using the "Health topic cards", the group collectively decided on the most interesting and relevant topic for discussion and exploration.
5. Defining the needs: to encourage active participation, thought-provoking questions were posed to the participants, such as: Why is this topic important to us? What aspects of the topic would we like to explore? Why did we select this particular topic? What questions do we have about it? Each student had the freedom to express their thoughts by jotting them down on the cube and

expanding upon each other's ideas.

6. In the online mode, a similar approach was taken. Participants shared their individual needs, and it was my responsibility to transform them into digital post-its, enabling seamless discussion and elaboration on each other's perspectives. This interactive digital format facilitated effective collaboration and ensured that all participants had an opportunity to contribute to the conversation.
7. Collecting the needs: After gathering the inputs from the cube activity, the next step involved transferring them into a structured template. The key points were transformed into actionable items. Additionally, the preferred mode of lesson delivery was determined. In the first instance, students were given the freedom to choose, while in the second instance, they were guided by the "Modality cards."
8. Final feedback: The workshop concluded with a discussion focused on gathering feedback from the participants. Their perspectives and opinions on the workshop were explored, and their interest in having such activities implemented in school projects was evaluated. This final feedback stage provided valuable insights for future improvements and implementation.

8.3.2 How to establish the success of the workshop

In order to assess the effectiveness of the workshop, a metric was needed to determine the success or failure of the process. It was important to gather quantifiable data that would indicate the workshop's success. The chosen metric was based on student feedback, specifically if more than half of the students found the activity interesting and expressed a desire to engage in this type of health-related activity that originated from their own ideas.

To evaluate this metric, an initial questionnaire was designed, which included the following questions:

1. Have you ever participated in health education programs in school?
2. On a scale of 1 to 5, how interesting were the workshop topics?
3. On a scale of 1 to 5, how relevant were the topics to your interests?
4. If you would have preferred different topics, which ones would you have liked?

Additionally, a final questionnaire was administered to encourage open discussion. It included the following question:

If the themes of the health education programs were based on your needs, would this be something that would motivate you to participate more? Would it spark your curiosity?

By gathering responses to these questionnaires, valuable insights were gained to assess the impact and relevance of the workshop, providing a clearer understanding of the students' perspectives and needs.



FIG. 40. Questionnaires used at the beginning of the session

8.3.3 Key insights

In conclusion, the workshop activities conducted yielded valuable insights and outcomes.

- The feedback received from the students was overall positive, and it was evident that they were highly engaged and open to discussion. The format of the workshop, along with the physical artifacts used, successfully stimulated meaningful conversation and active participation from all the students involved.
- The students expressed the idea that having a dedicated space within the school where they could openly express their thoughts and feelings could be highly beneficial. This not only highlighted the importance of collecting data but also emphasized the potential positive impact on the students themselves.
- The themes that emerged during the workshop were noteworthy, as they revealed topics that were not currently addressed in existing health education programs. Particularly, the discussions revolved around sensitive issues related to body perception and self-esteem, shedding light on the significance of addressing these topics within the educational setting.
- Furthermore, the teacher displayed a keen interest in the workshop activity, recognizing the value of involving students in the decision-making process. By giving students a sense of agency and ownership, it helps them feel more empowered and prevents the perception that things are imposed upon them from above

Overall, the insights gained from this chapter highlight the importance of student involvement and open discussion in shaping effective health education programs. The positive feedback, stimulating format, and emergence of new themes emphasize the potential for creating a student-centered approach to health education that addresses critical issues and promotes student well-being.

8.4 Concept review with the Health Prevention department

To ensure the comprehensiveness and effectiveness of the portal, a collaborative effort was made to transform the collected data. Contact was established with Cinzia, the designated point of contact from the health prevention department. Cinzia's input was invaluable in implementing and refining the portal. Additionally, Anna, an expert in epidemiological data analysis, provided valuable insights and feedback to further enhance the portal's capabilities. The involvement of these key individuals allowed for a comprehensive evaluation and interpretation of the collected data. Cinzia's expertise in the overall project and Anna's specialized knowledge in epidemiological data analysis ensured that the portal could effectively handle and interpret the data.

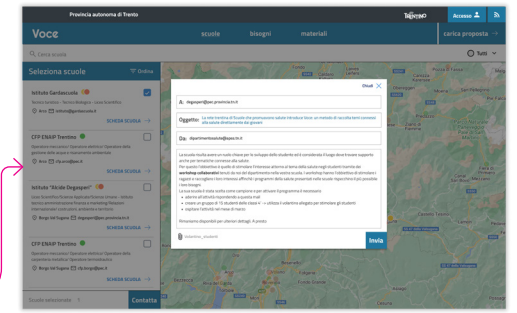
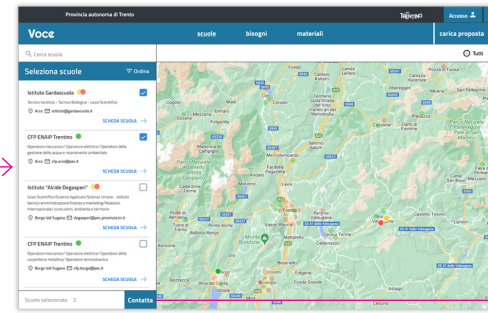
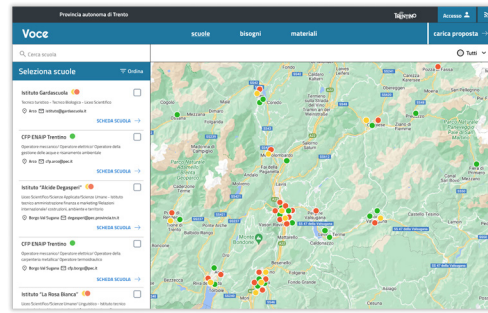
By engaging with experts in the field, the portal was refined and tailored to meet the specific requirements of data analysis and interpretation. Their valuable feedback and guidance contributed to the development of a robust and insightful platform.

8.4.1 High fidelity version of the portal

The subsequent pages showcase the final interface of the portal, which will be accessible to the health prevention department. This interface will be seamlessly integrated into the existing school portal vivoscuola.it and the network of schools promoting health section. By providing direct access from the school portal, the health prevention department can easily navigate to the dedicated section of the platform. This integration ensures convenient and efficient communication between the health prevention department and the participating schools. This portal marks a significant step forward in facilitating effective collaboration and fostering a holistic approach to health promotion within schools and the broader community.

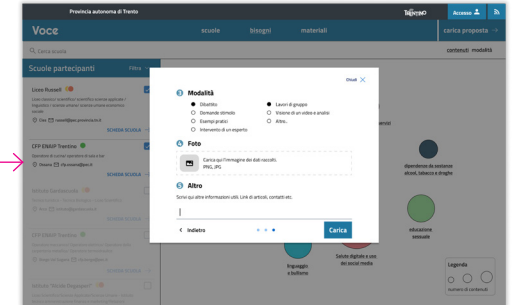
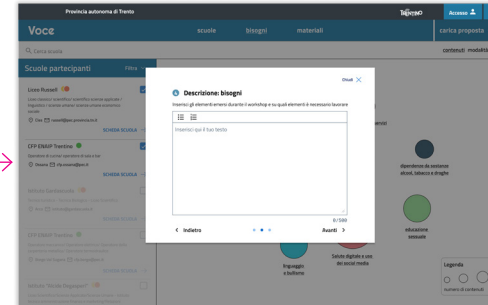
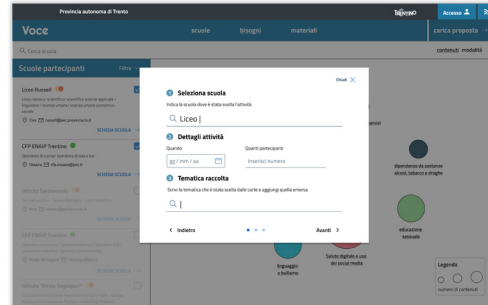
Map

Map with an overview of schools in the province of Trento with a section to select them and contact them via a preset message.



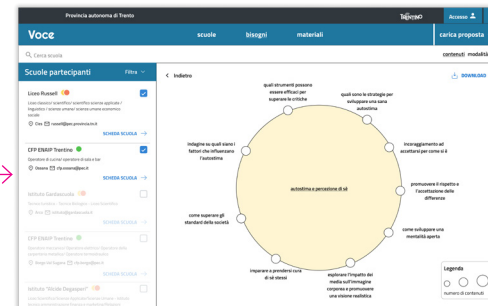
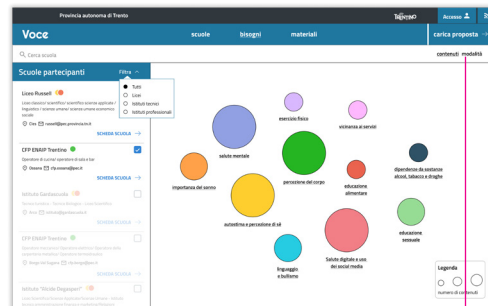
Upload proposal

Section where to upload the material collected during the workshops in schools. The data to be entered are: the school, the topic collected, when the activity was done, the number of participants, in detail the needs collected, and the mode of intervention.



Needs gathered overview

Overview of data collected from various schools, the larger the bubbles the more content there is and the more schools chose that theme.



Modality overview

Collection of intervention methods related to the topics and page where to download the toolkit for the workshop in the schools with insights on which methods of intervention can be chosen

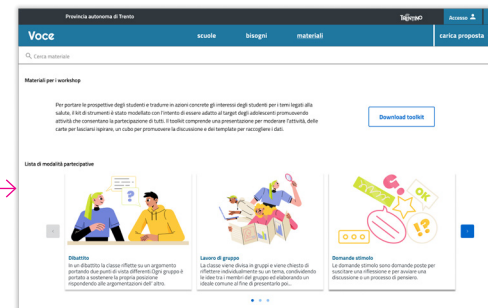
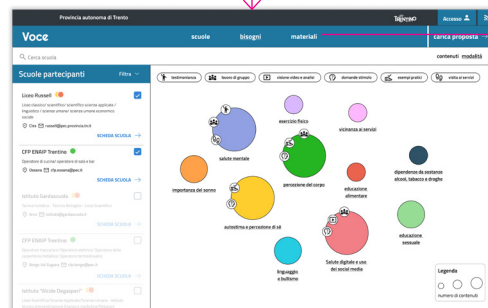


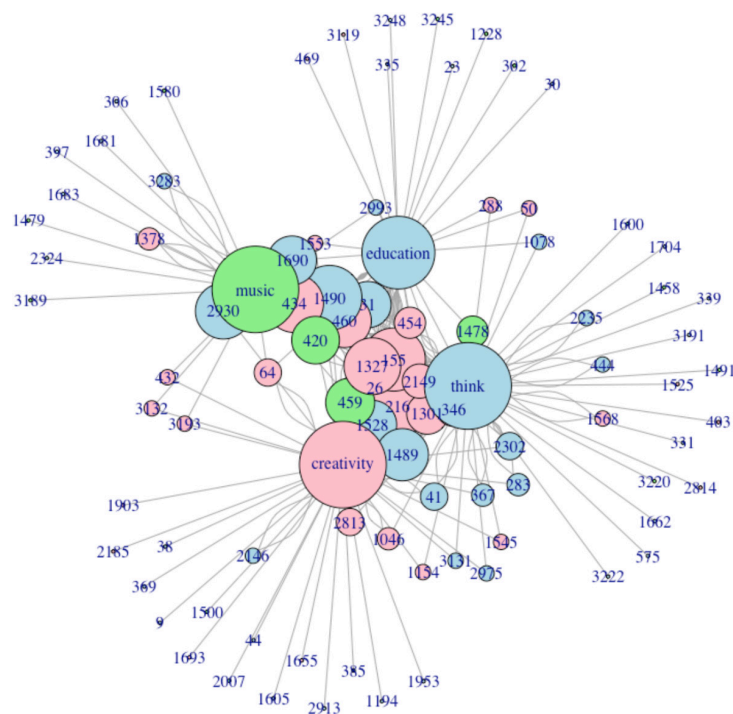
FIG. 41. Wireframes of the interface

8.4.2 Clustering methods

In the Voce platform, the technology of Latent Dirichlet Allocation (LDA) is employed to cluster the different topics discussed by students (Developedia, 2020). By applying LDA to the keywords and content generated by students, the platform can automatically identify underlying topics and group related discussions together. LDA (FIG.33) is particularly useful in this context because it allows for an unsupervised and data-driven approach to topic clustering. It discovers the topics solely based on the patterns of word co-occurrence in the students' inputs. This flexibility enables the platform to adapt to evolving interests and emerging discussions.

By leveraging LDA, Voce provides a comprehensive and dynamic clustering of topics, facilitating the identification of common themes and interests among students.

FIG. 42. Example of LDA clusterization. Kuang, 2017



8.5 Service feasibility

In order to assess the feasibility and potential impact of data collection, a thorough evaluation was conducted based on the participation of schools in the network of schools promoting health. The substantial number of schools, 71 in total, that have already joined the network since the beginning of the year showcases a significant level of engagement and interest in promoting health education. Among these schools, 13 are professional schools, highlighting the inclusivity of the initiative across various educational sectors (Vivori, 2023).

Through consultations with the health prevention department representative, it was determined that a sample size of 15 schools from the network would provide a meaningful representation of the overall region. While not encompassing the entirety of the schools involved, this selected sample would still offer valuable insights into the prevailing needs and interests of students regarding health education. To ensure a diverse range of perspectives, the plan is to include a mix of technical, professional, and high schools in the sample. This approach acknowledges the unique characteristics and requirements of different types of educational institutions, allowing for a comprehensive understanding of health-related concerns across various student populations.

As the data collection process unfolds, it is expected that each participating school will identify and contribute one or two prominent themes that emerged from the needs identification activity. These themes will then be integrated into the portal, enriching it with relevant and tailored content which will be divided into clusters.

Furthermore, as the initiative progresses, the plan is to expand the scope of the activity to involve an additional 15 different schools in subsequent years. This strategic expansion aims to continually broaden the perspectives and ensure a sustained impact on the health education landscape.

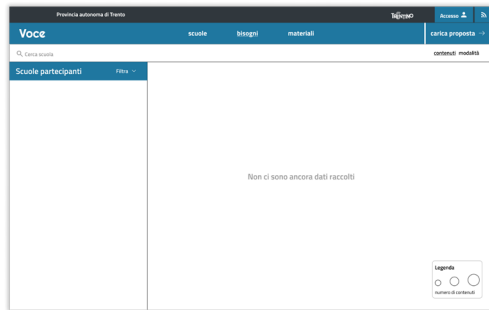
By visualizing the upcoming changes and enhancements to the portal based on the collected data, it becomes apparent that certain themes will emerge as more prevalent and common among the participating schools. These recurring themes will provide valuable content cues

and serve as a foundation for designing targeted health education programs that address the specific concerns and interests of students.

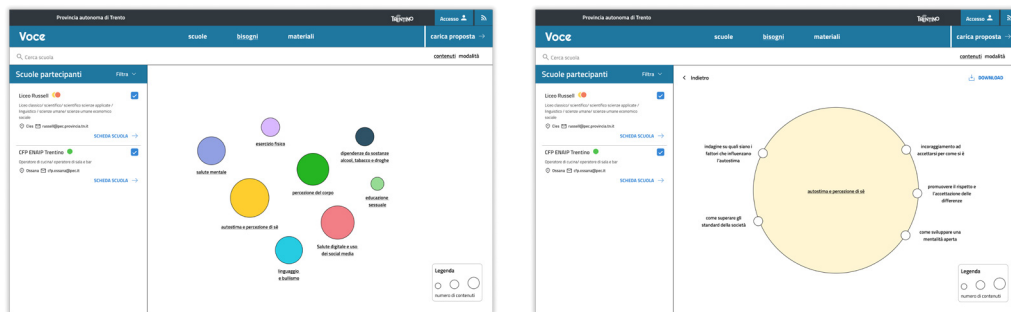
8.6 Final considerations

In conclusion, the project has successfully gathered valuable data on various health-related topics through the sessions conducted. The findings have highlighted that certain themes are more prevalent than others, emphasizing the need for clustering techniques to effectively target interventions. However, it should be noted that the current clustering approach is restricted to the themes collected through the cards, which were chosen from research and in collaboration with the department to establish common macro-themes. Moving forward, there is a potential for further processing and analysis to uncover additional internal facets, allowing for more precise targeting and an in-depth understanding of specific topics. To fully develop the process, a comprehensive evaluation of all the steps involved is necessary, along with the development of a program based on the collected data. This entails collecting more data from other schools and engaging in discussions within the Department of Health, integrating the findings with epidemiological data to further elaborate a final program to test in one school. The thesis has examined different methods and explored potential collaborations with the Department of Health Prevention, paving the way for future advancements in this field.

When there is no data collected



When data are collected from a limited number of schools



When data are collected from all selected schools

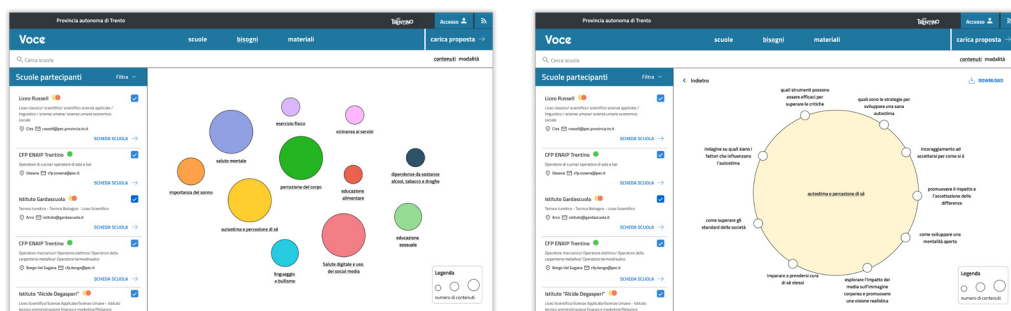


FIG. 43. Development of interface based on quantity of data

Conclusions

Conclusions

9.1 Design as a learning process for designers

In conclusion, this thesis has provided valuable insights into the challenges faced by young individuals in relation to mental health, particularly in the context of eating disorders. Through a comprehensive examination of these difficulties, a deeper understanding has been gained regarding the underlying factors contributing to these conditions. Moreover, it has become evident that effective addressing of these issues requires active engagement with various stakeholders. The process of mutual learning between users and the current system has played a pivotal role in identifying key areas for intervention, thereby highlighting the importance of the designer as a learner of user activities, shaping the direction of interventions (Béguin, 2003). Additionally, the research has underscored the significant role of institutions such as schools in promoting and supporting mental health, as they provide crucial knowledge and resources for effective interventions.

While the school system has demonstrated an active interest in health-related initiatives, it has been observed that there is room for improvement in integrating activities that truly encompass students' perspectives and needs. This realization emphasizes the importance of adopting a student-centered approach in health education programs. By involving students in the development and decision-making processes, their perspectives can be effectively integrated, resulting in more impactful and relevant interventions.

Collaboration with the health prevention department has been instrumental in shaping the concept and touchpoints of the project. This partnership has allowed for continuous adaptation and improvement, showcasing the role of

the designer as a facilitator of continuous discovery and reflection. The iterative nature of the design process has led to valuable insights and ongoing enhancements to the solution, ensuring its relevance and effectiveness.

Voce's solution serves as a bridge between the complex systems of school and health, offering a simple yet powerful tool for collaboration and communication. By valuing the perspectives of both schools and students, the platform promotes active engagement and empowers the community as a whole. Through continuous tools and resources, Voce fosters collaboration with schools and facilitates a holistic approach to health education, ultimately enhancing the well-being of students and the broader community.

In conclusion, this thesis has highlighted the importance of addressing mental health issues, the role of schools in promoting health, the need for student-centered approaches, the value of collaboration with stakeholders, and the significance of bridging the school and health systems. Voce's solution represents a step forward in creating a more inclusive and effective approach to health education, and its ongoing development and implementation hold great potential for positively impacting the well-being of adolescents and the broader community.

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