

Italia Ti Ascolto [Italy, I am listening]: an app-based group psychological intervention during the COVID-19 pandemic

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All materials will be available upon request to the corresponding author.

Abstract

Background: the onset of the COVID-19 pandemic brought disruptive changes in everyone's everyday life, among which pervasive anxiety about the risk of infection, the fear of worsening physical symptoms, and the experience of isolation and loneliness due to lockdowns and other strict governments' rules. These kinds of repercussions of pandemic situations impact individuals' psychological wellbeing resulting in heightened perceived stress, anxiety, and depression. "Italia Ti Ascolto" (ITA) has been developed as an internet-based intervention to offer an online solution for psychological support needs. **Methods:** ITA is an app available on iOS and Android systems. Users complete a baseline assessment on emotion regulation strategies (cognitive reappraisal and expressive suppression), psychological stress, anxiety, depression, and perceived social support. Participants select between several one-hour long clinical groups held by expert psychotherapists. After every session, people are asked to complete a quick users' satisfaction survey. **Discussion:** Our contribution presents ITA's intervention protocol and discusses preliminary data on psychological variables collected at baseline. Data showed significant associations between emotion regulation strategies and depressive, anxious symptoms, and level of stress. Moreover, the role of perceived psychological support is considered. Future developments and implications for clinical practice and treatment are discussed.

Keywords: COVID-19; E-mental health; Online Psychological Interventions

Introduction

Extraordinary events such as a global pandemic have a significant impact on individuals' psychological wellbeing, fostering negative consequences for the community and influencing economics, politics, and culture. Indeed, the experience of isolation, fear of infection, boredom, and overall uncertainty has a significant toll on individuals' mental health (Brooks, 2020). Thus, it is crucial to assess the level of psychological distress of all affected populations: people that contracted the virus, their caregivers and relatives, healthcare workers, as well as adolescents and children (Mazza et al., 2020; Petzold et al., 2020; Preti et al., 2020; Qiu et al., 2020). Wang and colleagues (2020a) explored a sample from the general population during the first phase of the pandemic in China: participants reported anxiety symptoms (28.5%), depressive symptoms (16.5%), and a high level of perceived stress (8.1%).

The COVID-19 outbreak strongly impacted Italy, especially the Lombardy region (Percudani, Corradin, Moreno, Indelicato, & Vita, 2020; Rapisarda et al., 2020). Chevallard and colleagues (2020) found that during the first phase of the Italian lockdown, Intensive Care Unit (ICU) accesses due to suicidal attempts were three times higher than in previous months. Tan and colleagues (2020) also found that healthcare workers showed higher levels of perceived stress, depressive symptoms, and anxiety levels during the pandemic; and, more importantly, struggle to ask for psychological support. However, Romero and colleagues (2020) found that healthcare workers who received psychotherapy treatment showed diminished stress levels. These results underline the importance of assessing individuals' psychological wellbeing in the general population and at-risk groups, advocating the significant contribution of psychological support during dramatic times like a pandemic outbreak.

However, a significant issue in accessing psychological care during a lockdown is the lack of access to 'live' interventions (Kang et al., 2020). In the last decade, researchers implemented several interventions to help overcome those difficulties, integrating new technologies with psychological

interventions such as online individual psychological consulting via videoconferencing and chat-groups (Richardson et al., 2009; da Silva, Siegmund, & Bredemeier, 2015; Chakrabarti, 2015).

Moreover, long-distance support through videoconferencing and chats is also used in group interventions (Marziali et al., 2006; Banbury et al., 2018).

Several recent contributions (Zhang et al., 2020; Duan & Zhu, 2020; Liu et al., 2020; Soklaridis et al., 2020) suggest the utility and the efficacy of internet-based intervention groups to support people experiencing psychological distress due to the COVID-19 pandemic. Several systematic reviews investigate the effectiveness of internet-based interventions in general and related to the COVID-19 pandemic (e.g., Miralles et al., 2020; Zhang et al., 2020). More specifically, different studies found significant efficacy of web-based psychological interventions through cognitive-behavioral approaches to reduce anxiety symptoms (e.g., Carl et al. 2020; Antognell et al. 2020). Also, Lindqvist and colleagues (2020) suggested that internet-based affect-focused psychodynamic psychotherapy effectively reduced depressive and anxiety symptoms. Moreover, Lindegaard and colleagues (2020) investigated the differences in online interventions' efficacy based on cognitive-behavioral and psychodynamic approaches (Benzi, Milesi, & Parolin, 2021); researchers found no differences regarding their effectiveness, but both treatments significantly reduced anxiety symptoms. All in all, taking advantage of online psychological interventions is a useful tool to overcome the adverse psychological effects of the COVID-19 pandemic. Thus, to provide a tailored but collective treatment, it is fundamental to highlight specific population's needs.

Target populations for psychological intervention during pandemics

The first significant population includes adults having experienced grief due to COVID-19. Indeed, the COVID-19 pandemic prevented individuals from experience the normal mourning process (for a review Stroebe, & Schut, 2020) due to the mitigation measures involving physical distancing, lack of social support, a limited number of people allowed to attend the funeral, postponed or remote

burials, hygiene norms, and measures. All these factors interfered with cultural, spiritual, and religious mourning rituals. Moreover, terminally ill/severe COVID-19 patients often experienced traumatic deaths, characterized by depersonalization, absence of any human contact, and a lack of standard communication due to social and physical isolation. Furthermore, intrusive concerns caused by the healthcare emergency and the need to change one's routine between lockdown periods and return to normality often prevented people from experiencing losses developing an adequate mental space for grief processing, whether traumatic or not. All these factors call for incorporating new ways to deal with grief, which can benefit from a group dimension, require expert psychologists' support, and be delivered via the latest technologies. The efficacy of web-based treatment for grief has already been established (for a review, see Wagner, Rosenberg, Hofmann, & Maass, 2020).

Parents represent another significant target (Cluver et al., 2020): indeed, according to The United Nations Educational, Scientific and Cultural Organization, by mid-April 2020, 1.58 billion children and youth (94% of the total students) were forced to forsake educational and learning programs. Given the parents' job context (i.e., remote working and smart working) and emerging uncertainty, this change led to creating a new narrative of family life and roles: parenting and caregiving (De Carli, Tagini, Sarracino, Santona, & Parolin, 2016) have now faced new challenges. Moreover, parents are left alone to explain to their children new hygiene protocols and the unprecedented social and individual challenges we are facing. Parents deal with two different issues: parents of preadolescent and adolescent children are helping them face up to detachment from school, routines, and peers, whereas parents of children attending primary school are helping them dealing with significant changes in the school system. Indeed, the school changed its schedules and rituals: from socialization and daily habits, it has become a place of containment hygiene protocols and social distance. Parents are trying to help their children find the motivation to study, which requires them a cognitive and emotional effort. This overall break with the school's past concept is a significant change that has to be understood and managed thanks to familiar support and guide. On

the other hand, the fear of contagion from children attending school and the burden triggered by unbalanced family tasks, which involve parenting, working, and self-caring, might induce psychological stress to parents.

Another noteworthy target populations are adolescents and young adults: indeed, sanitary emergence negatively affected their routines. They suddenly experienced a lack of friends' support, an absence of stability in their past daily routines, the loss of regular oscillation between school and free time. The health crisis showed to be economical as well, exacerbating learning and education disparities. These changes required them further cognitive, behavioral, and emotional effort in a life-span stage where they already are dealing with physical, mental, and emotional changes (Braveman & Barclay, 2009) and specific evolutionary tasks. Indeed, in this stage, preadolescents and adolescents are expected to develop new social and autonomy skills to establish a stable and coherent sense of self (Benzi, Sarno, & Di Pierro, 2018; Benzi, Preti, Di Pierro, Clarkin & Madeddu, 2019). Among the specific tasks prevented by COVID-19, it is of note the divestment in the family and the investment in friend and romantic field (Shlever et al., 2014), with possible negative consequences on their development identity, good emotional regulation, and new formal and informal skills, all elements that have been identified as linked to personality pathology (Preti et al., 2015; Di Pierro, Gargiulo, Poggi, Madeddu, & Preti, 2020). The role of social isolation and loneliness in children and adolescents has already been tested, finding associations with lower mental health (particularly depression), physical health problems, and neurodevelopmental conditions (for a review, see Loades et al., 2020). Adverse effects lasted up to 9 years later and were directly proportional to the forced isolation duration. Only one study (Sprang & Silman, 2013) investigated the topic during a pandemic establishing a link between social isolation/quarantine and mental health problems in a sample of young individuals. Notably, researchers reported that young subjects who had experienced quarantine were five times more likely to need mental health treatment and suffer from post-traumatic stress. Consistently, emerging evidence on preadolescent and adolescent mental health during the 2020 pandemic (Guessoum et al., 2020; Racine et al., 2020)

highlighted chronic and acute stress, anxiety, depression, post-traumatic symptoms, an increase in intrafamilial violence, concerns and rumination for family members condition, unexpected and traumatic grief, uncertainty due to sudden school closures and openings, a sense of powerlessness due to the feeling of helplessness, an increase of problematic use of social networks and preoccupations for family and social-economic condition. The use of digital tools in preadolescent and adolescent populations has recently been tested, leading to significant improvements in their mental health (Gladstone et al., 2020; Saulsberry et al., 2013; Wahlund et al., 2020), even in the context of single-session interventions (Schleider et al., 2020). As already highlighted, the school has profoundly changed, and this process might lead to a psychological burden for teachers, which represents another crucial target. Teachers are on the COVID-19 emergency frontline, facing several structural changes in the school and educational system. They are in charge of children's education and children's engagement in learning and mitigation measures management (Carrillo & Flores, 2020; Allen, Rowan, & Singh, 2020). Moreover, they are challenged to deliver lessons using new technological tools, paired with the feeling of being left alone by institutions. On the other hand, the need for face-to-face classes in some cases might foster the fear of being infected.

Another specific population includes pregnant women. Pregnancy is a complex experience in every woman's life: women have to restructure their physical self-image, deal with physiological and hormonal level changes, and mentalize new fantasies and fears about the unborn child (De Carli et al., 2019). These challenges make pregnant women prone to developing negative emotional states (La Marca-Ghaemmaghami & Ehlert, 2015). According to Schenpanski, Buss, Hanganu-Opatz, and Arck (2018), prenatal issues, such as maternal stress, which can be triggered both by pregnancy challenges and by COVID-19 emergency, and viral infections, as COVID-19 disease, are linked to cognitive impairment, poor intellectual performances, low immunity, neurodevelopmental disorders (e.g., ADHD, ASD, mood disorders) and psychiatric pathology (e.g., schizophrenia) in the newborn. Moreover, childbirth and postpartum are already potentially problematic due to the possible development of baby blues, postpartum depression, and puerperal psychosis (Rezaie-

Keikhaie et al., 2020; Shorey et al., 2018; VanderKruik et al., 2017), which may nowadays lead to further concerns and uncertainties. Indeed, healthcare resources are mainly invested in pandemic units, and pregnant women are forced to give birth isolated from their partners and family. Recent studies highlighted how new technologies are useful for reducing depressive, anxious, and stressful states in this specific population (Felder et al., 2020; Shahsavan, Akbari, Gharraee, Abolghasemi, & Khedmat, 2020).

All in all, emerging literature (Brooks et al., 2020) showed that the pandemic affected the entire population, increasing post-traumatic stress symptoms, confusion, and anger. According to Brooks et al. (2020), some stressors exacerbated the healthcare emergency burden: quarantine duration, infection preoccupations, frustration, boredom, inadequate supplies, and media information, financial loss, and stigma. Thus, the entire population is to be considered at risk of developing maladaptive psychological outcomes (e.g., anxiety and depression above all). Consistently, we identified some specific targets: institutions and essential workers, people who were experiencing job-related issues and preoccupations, as well as young adults. The efficacy of online interventions, particularly for anxiety and depression, has already been established (Taylor, Graham, Flatt, Waldherr, & Fitzsimmons-Craft, 2020; Zhang & Smith, 2020), become increasingly popular in the scientific community during recent years (Miralles et al., 2020).

Finally, another target-specific population includes individuals who contracted COVID-19, both those symptomatic and those without symptoms, and individuals in quarantine for having had some contact with positives. Emerging fears of this specific target may be linked to frustration due to isolation, the guilt of infecting loved ones, concerns of physical symptoms, and anxiety about the future. A recent study (Taquet, Luciano, Geddes, & Harrison, 2020) highlighted a bidirectional relationship between mental health and COVID-19 infection: having COVID-19 increases the risk of developing psychiatric disorders while having a psychiatric disorder would increase the chances of getting infected. Consistently, some authors (Prete, Di Pierro, Fanti, Madeddu, & Calati, 2020)

have recently pointed out that patients with personality disorders, such as borderline personality disorder (Benzi, Di Pierro, De Carli, Cristea, & Cipresso, 2020), might be particularly affected by pandemic distress, experiencing an exacerbation of symptoms. Additionally, they showed how cluster B and cluster A patients might experience issues in maintaining good compliance with mitigation measures (Prete, Di Pierro, Fanti, Madeddu, & Calati, 2020). For those who are positive and who are facing this particular challenge, both physically and mentally, the efficacy of web-based interventions has already been demonstrated (Wei et al., 2020; Zhou et al., 2020).

Given these premises, we developed the "Italia Ti Ascolto" (ITA), a web-based tool to support individuals experiencing psychological distress during the 2020 pandemic in the Lombardy region in Italy. Indeed, the Lombardy region was amongst the most affected European areas during the pandemic (number of cases and deaths), requiring the activation of new widely and broadly accessible welfare resources to respond to citizens' distress (Percudani et al., 2020).

Thus, this contribution aims to describe the ITA protocol for online intervention and provide preliminary data on psychological variables assessed at baseline such as emotion regulation strategies, and depressive, anxious symptoms, and level of stress and perceived social support. Future developments and implications for clinical practice and treatment are discussed.

Methods

The ITA project

The Fondazione di Comunità foundation funded the ITA project, and the BiCApp research center (University of Milan-Bicocca) and the Order of Psychologists of Lombardy (OPL) developed the ITA app working with the IT company iMoobyte (www.imoobyte.it).

ITA is a smartphone app that provides different online rooms, themed according to the type of stressful event participants experience (i.e., pandemic stress, grief). The online group intervention

was delivered for three months, from September 2020 to the end of November 2020, and consisted of 16 up to 20 rooms per week . Each room lasted one hour, hosted up to 16 participants, and was led by an experienced psychotherapist. This digital tool's aims were numerous: to promptly and effectively contain emotional stress, reduce pandemic preoccupation, and link affected individuals to local and national mental health services. The platform was developed by iMoobyte and is available both on iOS and Android systems.

We organized a weekly supervision meeting to monitor the service's status, discuss relevant clinical issues, share good communal practice, and share a clinical model for the intervention as well as providing scientific supervision. Also, meetings provided useful information to identify the app's strengths and weaknesses and implement changes in progress. For instance, new targets have been identified from time to time, including pregnant women, COVID-19 positive individuals, and teachers. In contrast, some rooms have been modified to meet participants' needs (i.e., parents' group). To tackle participation issues, we implemented reminders, notifications on groups' status, and the possibility for psychotherapists to independently open and close the rooms.

Participation in the research was completely voluntary and dropout was possible at any time. The study was performed in agreement with the Helsinki Declaration of 1975, as revised in 2000, and was previously approved by the Ethical Committee in charge (prot. n. 0048092/20).

Participants and Procedure

Participants were recruited through ads on social networks, news reports, and radio announcements. Once the user downloaded the app and registered a profile, he/she had the opportunity to enroll in the groups, choosing from several time slots, thematic rooms, and professional therapists. At the time of registration to the specific virtual room, participants were asked to sign a privacy form, informed consent, and certify their legal age. The day before and on the day of the session, users received reminders to promote participation further.

Each meeting followed a definite process: first, a self-presentation of the participants and a brief introduction of ITA. The therapists clarified the group's aims, specified privacy rules, and explained how the platform worked. Then, therapists started with the intervention phase, asking the participants to share their emotions and thoughts on their current situations. The meeting systematically ended with the presentation of the available mental health service in Lombardy.

Participation in the study comprised two phases: an initial assessment to collect demographics, COVID-19 related topics, standardized measures for anxiety, depression, stress, emotion regulation, and perceived social support (T0; immediately before the treatment); a second survey to assess satisfaction and usability right after the online intervention (T1; after intervention).

Measures

We explored *sociodemographic status* via age, sex, ethnicity, education level, employment, income, location, and family status.

COVID-19 related information encompassed past psychiatric or psychological consultations, COVID-19 infection or symptomatology both participant or his/her family, concerns and preoccupations regarding COVID-19 symptoms, mortality, contagion and socioeconomic consequences, time spent gathering information about the virus and related psychological distress.

Psychopathological outcomes were assessed via the Depression Anxiety Stress Scales-21 (DASS-21; Lovibond & Lovibond, 1995; Italian version Bottesi et al., 2015). The DASS-21 is a 21 items self-report measure assessing emotional distress toward three subscales: depression scale, anxiety scale, and stress scale. Participants were asked to rate how much the items applied to them over the past week on a 4-point scale (0=did not apply to me at all, 3=applied to me very much or most of the time). Cut-off scores for mild to extremely severe clinical levels are 10-13 for depression, 8-9 for anxiety, and 15-18 for stress after multiplying the participants' scores by two (Lovibond &

Lovibond, 1995). The three DASS-21 scales showed good internal consistency in our sample (range $\alpha = .93 - .94$).

Emotional regulation strategies were assessed by the Emotional Regulation Questionnaire (ERQ; Gross & John, 2003; Italian version Balzarotti, John, & Gross, 2010), a 10 items self-report measure ranging on a 7-point scale (1=Strongly disagree,7=Strongly agree). The ERQ assesses the ability to manage emotions through two different processes: Cognitive Reappraisal (CR) and Expressive Suppression (ES). Both scales showed acceptable internal consistency in our sample (CA: $\alpha = .87$; ES: $\alpha = .62$).

Social support was measured by the Multidimensional Scale of Perceived Social Support (MSPSS; Zimet, Dahlem, Zimet, & Farley, 1988; Italian version Di Fabio & Palazzeschi, 2015), which assesses several sources of social support, namely Family, Friends and Significant Other. Participants rated on a 7-point scale (1=Very strongly agree, 7=Very strongly disagree) their agreement with twelve different statements. The three MSPSS scales showed good internal consistency in our sample (range $\alpha = .85 - .90$).

Users' experience was assessed by the System Usability Scale (SUS; Brooke, 1996; Italian version Borsci, Federici, & Lauriola, 2009), a 10 items questionnaire, ranging on a 5-point scale from 1 (Strongly agree) to 5 (Strongly disagree). The measure evaluates the users' perception of usability of several kinds of hardware, software, mobile devices, websites and applications. The SUS showed good internal consistency in our sample ($\alpha = .84$).

Intervention and Results

The service had proven to be well-received by the community, with a trend of increasing users, primarily when Lombardy was categorized as a “red zone” (high emergency status). It is of note that participants used the platform not only at a regional but also at a national level.

In less than 3 months, more than 2.000 users created an individual profile, while about 607 users signed up for groups. 134 participants took part in the study at baseline (T0), while 54 rated their perception of the app usability (T1).

Thus, the study involved a community sample of 134 participants with a mean age of 33.20 (SD = 10.61, age-range 18 – 58), represented mostly by females (N =115; 86%). 93.3% of the sample was of Italian nationality, and 21.6% lived in Milan, followed by Rome (8.2%), and Naples and Turin (both 6%). The majority of the sample was married or had a partner (62%), whereas 32.8% were single. Only six individuals were divorced or separated, and only one was a widower. Moreover, most of the sample was represented by students (28.4%), followed by full-time employed (26.9%) and unemployed (19.4%) individuals. The majority of the participants declared a university degree or higher (N =77; 57.4%), whereas the remaining participants reported a high-school level of education or below (N =57; 42.6%). Interestingly, 66.4% of users enrolled in mental health treatments in the past (N = 89), mostly due to anxiety or depression-related symptoms (N = 44, 31.9%). 22.4% of 51 respondents reported having tested positive for the virus in the past month, while 3% reported waiting for their results. Among participants, a high number had severe up to extremely severe preoccupations for the infection rate (93.3%), for symptomatology (70%), for the social impact of the pandemic (92.5%), and its economic consequences (94.8%). Moreover, many individuals spent a significant amount of time searching for information on COVID-19: about half of the sample consulted more than once a day news sites (51.7%) and social media (47.5%) or used phone calls and text messages (42.6%). One-third of the sample (34.3%) used television and radio more than once a day to get extra information. The majority of participants (81.2%) declared they felt moderate to severe anxiety after consulting the television or radio, as did those who searched websites (85.9%). Several participants (71.6%) reported they felt moderate to severe anxiety after gathering information from social media, and 73.2% showed similar anxiety levels after gathering information from phone calls and mobile phone messages.

Means and standard deviations of the variables of interest are reported in Table 1.

It is of note that the majority of the sample reported experiencing clinically relevant levels of symptomatology:

- 85% reported mild up to extremely severe depression indicators.
- 72% declared to suffer from anxiety mildly up to severely.
- 83% of the sample reported mild up to extremely severe levels of stress.

Furthermore, we conducted t-test analyses to investigate gender differences (Table 2), but no significant effect was found except for depressive symptomatology, which resulted higher in the male sample ($p < .05$). In Table 3 we report correlations between psychological negative responses to COVID-19 and possible coping strategies, namely social support and emotional regulation strategies. Results showed that the lower social support perceived, the greater the tendency to suppress emotions. Moreover, the cognitive reappraisal strategy was negatively associated with depression, anxiety, and stress.

Concerning the app usability, overall user experience scored 88.98 (SD = 13.56), which is considered above the 96 percentile, and it is categorized as "Best possible."

Discussion

The ITA project represents an innovative approach to psychological well-being that makes it easier to reach people with psychological distress. It also facilitates the link between citizens and mental health services. Indeed, it is of note that the sample enrolled in our study sought mental health treatment in the past, in particular, due to anxiety or depression-related symptoms. This result is in line with previous findings, highlighting how the personal history of psychiatric symptoms is a risk factor for mental health distress in response to COVID-19 emergency (for a review, see Luo, Guo, Yu, Jiang, & Wang, 2020; Stein, 2020). In line with this assumption, many authors underscored the importance of taking care of psychiatric patients in the pandemic framework (Xiao et al., 2020; Zhu et al., 2020), considering them as a vulnerable target-population (Yao et al., 2020).

Most of the sample showed to be particularly scared of economic consequences, followed by infection rate, the pandemic's social impact, and symptomatology, in line with previous studies highlighting higher economic anxiety levels than health anxiety (Bareket-Bojmel, Shahar, & Margalit, 2020). We found out that most of our sample reported significant clinical levels of depression, anxiety, and stress concerning psychological distress levels. This evidence emphasizes the need to develop a service that considers psychological well-being in times of pandemic, not only for those with a psychiatric history but also for the whole population who have to face economic, social, and health uncertainty. Moreover, we found that participants consulted more than once a day many media tools, in particular news sites and social media, followed by phone calls and text messages, and television and radio: this is reported being related to experiencing significant levels of anxiety after being exposed to COVID-19-related information, consistently with previous studies (Gao et al., 2020; Neria & Sullivan, 2011).

Furthermore, we found no significant gender differences between our interest variables, except for men who reported higher levels of depression than women. This result is consistent with previous findings by Gong, Xie, Xu, & Yuejia (2010) and Jiang et al. (2020), where men experienced higher depression levels than women. Nevertheless, our result could be affected by the low number of male subjects who took part in our study ($N = 19$).

Overall, the ITA service seems to intercept people who present clinically significant difficulties and struggle to implement effective emotional regulation strategies.

Indeed, preliminary data showed significant associations between expressive suppression strategies and perceived social support. Specifically, we found evidence that people experiencing low support tend to suppress their emotions. Our finding is consistent with previous findings, showing that expressive suppression is related to lower social support, fewer significant relationships, disruption in social communication, inhibition tendency, and feelings of inauthenticity (Butler et al., 2003; Chukwuorji, Uzuegbu, Chukwu, Ifeagwazi, & Ugwu, 2020; Cutuli, 2014; Gross & John, 2003;

Joormann & Gotlib, 2010; Srivastava, Tamir, McGonigal, John, & Gross., 2009). Expressive suppression is a coping strategy that involves the inhibition of one's emotional expressivity and is related to emotional dysregulation (Butler et al., 2003). Consistently with this conceptualization, we found evidence that emotional suppression has no buffer role toward psychological distress, as in the study by d'Arbeloff et al. (2018). Indeed, emotional suppression did not show significant correlations with any DASS-21 subscales.

On the contrary, we found the already established buffering role toward psychological distress in several studies (e.g., Preece, Becerra, Robinson, & Gross, 2020), in particular regarding depression and anxiety (Gross & John, 2003; Joormann & Gotlib, 2010; Cutuli, 2014). Moreover, our result is in line with previous findings showing that people using cognitive reappraisal tend to have higher self-esteem and well-being (Ibidem). Cognitive reappraisal consists of cognitively processing potentially damaging information to cope with the negative emotional impact (Gross & John, 2003), so it is not surprising that it has been found related to a decrease in mental health distress in our study.

Regarding usability, we found evidence that ITA has increasingly become a new resource for citizens and the community, both at the regional and national levels. Participants reported a general satisfaction, described the app as intuitive, easy to use, innovative, and qualitatively reported a more substantial positive effect for larger groups. Among the peculiar characteristics of the app, participants reported several perks: the direct link with a professional therapist, the quality of the psychological treatments, the delivery of the service via standard devices, such as smartphones and tablets, the direct network with the regional territory, the gratuity of the service during a time in which the health emergency has hit the entire population and, finally, the possibility to get a remote consultation, which resulted fundamental in the framework of fragile population groups, positive/quarantined people or individuals from high emergency areas.

The results of this study can be better understood in the context of its limitations. Data display an initial picture of the participants, and correlations might hide the need to investigate a higher level of complexity between the variables gathering longitudinal data and performing further analyses (such as multiple regression and mediation/moderation models). Overall, this initial picture is sharp enough to support the urgent need to develop an intervention that can meet the newest demands arising from the COVID-19 pandemic outbreak. Moreover, our findings highlight the need for new tools that can facilitate individuals' access to mental health professionals. Psychological support might be crucial to help participants to increase their cognitive re-elaboration of a traumatic experience. Psychological support might play a key role in expressing their emotions instead of suppressing them, which is even more crucial in high-stress times. Finally, an easy-to-use app like ITA might provide a quick and convenient place for people to access professional support and counseling.

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Table 1. Means and Standard Deviations of mental health outcome and responses to stress.

	<i>M</i>	<i>SD</i>	<i>Min</i>	<i>Max</i>
ERQ_COGN_REAPPRAISAL	27.41	7.84	7.00	42.00
ERQ_EXPRESSIVE_SUPPRESSION	13.07	4.96	4.00	28.00
DASS_DEPR	10.93	5.59	0.00	21.00
DASS_ANX	7.08	4.89	0.00	20.00
DASS_STRESS	12.24	4.48	0.00	21.00
SSP_FAM	9.46	5.02	3.00	21.00
SSP_FRIENDS	12.96	6.14	4.00	28.00
SSP_SIGNIFICANT_OTHER	11.01	7.01	4.00	28.00
SUS_TOT	88.98	13.56	27.5	100

N= 134; ERQ_COGN_REAPPRAISAL=Cognitive Reappraisal scale (ERQ); ERQ_EXPRESSIVE_SUPPRESSION=Expressive Suppression scale (ERQ); DASS_DEPR=Depression scale (DASS-21); DASS_ANX=Anxiety scale (DASS-21); DASS_STRESS=Stress scale (DASS-21); SSP_FAM=Family scale (MSPSS); SSP_FRIENDS=Friends scale (MSPSS); SSP_SIGNIFICANT_OTHER=Significant other scale (MSPSS); SUS_TOT= SUS global scale.

Table 2. Mean, Standard Deviation and gender differences in mental health outcome and responses to stress.

	Male		Female		<i>t</i>	<i>df</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
ERQ_COGN_REAPPRAISAL	26.16	8.11	27.61	7.82	-0.75	132
ERQ_EXPRESSIVE_SUPPRESSION	14.37	5.27	12.85	4.90	1.23	132
DASS_DEPR	13.32	5.69	10.54	5.50	2.03*	132
DASS_ANX	9.00	4.36	6.76	4.92	1.87	132
DASS_STRESS	13.26	4.74	12.07	4.43	1.08	132
SSP_FAM	9.16	4.59	29.51	5.11	-0.29	132
SSP_FRIENDS	14.68	6.44	12.68	6.08	1.32	132
SSP_SIGNIFICANT_OTHER	13.05	7.67	10.67	6.87	1.38	132

N = 134; ERQ_COGN_REAPPRAISAL=Cognitive Reappraisal scale (ERQ);

ERQ_EXPRESSIVE_SUPPRESSION=Expressive Suppression scale (ERQ); DASS_DEPR=Depression scale (DASS-21); DASS_ANX=Anxiety scale (DASS-21); DASS_STRESS=Stress scale (DASS-21); SSP_FAM=Family scale (MSPSS); SSP_FRIENDS=Friends scale (MSPSS); SSP_SIGNIFICANT_OTHER=Significant other scale (MSPSS).

p* < .05; *p* < .01; ****p* < .001.

Table 3. Correlations among mental health outcome and responses to stress

	1	2	3	4	5	6	7	8	9	10	11
1. ERQ_COGN_REAPPRAISAL	1										
2. ERQ_EXPRESSIVE_SUPPRESSION	-.11	1									
3. DASS_DEPR	-.39***	.13	1								
4. DASS_ANX	-.35***	.10	.58***	1							
5. DASS_STRESS	-.34***	.042	.75***	.64***	1						
6. SSP_FAM	-.18*	.25**	.27**	.17*	.18*	1					
7. SSP_FRIENDS	-.12	.34***	.19*	.12	.07	.47***	1				
8. SSP_SIGNIFICANT_OTHER	-.05	.28**	.27**	.08	.12	.52***	.52***	1			
9. ERQ_TOT	.83***	.46***	-.27**	-.26**	-.28**	-.02	.09	.11	1		
10. DASS_TOT	-.41***	.11	.90***	.84***	.90***	.24**	.15	.18*	-.31***	1	
11. SSP_TOT	-.14	.36***	.30**	.14	.14	.77***	.81***	.86***	.08	.23**	1

N= 134; ERQ_COGN_REAPPRAISAL=Cognitive Reappraisal scale (ERQ); ERQ_EXPRESSIVE_SUPPRESSION=Expressive Suppression scale (ERQ); DASS_DEPR=Depression scale (DASS-21); DASS_ANX=Anxiety scale (DASS-21); DASS_STRESS=Stress scale (DASS-21); SSP_FAM=Family scale (MSPSS); SSP_FRIENDS=Friends scale (MSPSS); SSP_SIGNIFICANT_OTHER=Significant other scale (MSPSS); ERQ_TOT= ERQ global scale; DASS_TOT= DASS-21 global scale; SSP_TOT= MSPSS global scale

p* < .05; *p* < .01; ****p* < .001.