

## THE PHOTO DIARIES METHOD TO CATCH THE DAILY EXPERIENCE OF ITALIAN UNIVERSITY STUDENTS DURING COVID-19 LOCKDOWN

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*The aim of this research was to explore Italian students' lockdown experience during the COVID-19 pandemic to understand their emotions and the coping strategies they played out during their daily lives at home through photo diaries. The research was carried out in six Italian universities involving 109 participants. The task required each student to take one photo per day for one week in T1 and one in T2, representing their mood during their daily life at home and to give it a title and a brief description. Overall, 1,526 photographs with texts were collected. The main subjects of the photographs were objects, the most frequent coping strategy was self-distraction, and most participants expressed emotions of joy and anticipation but also sadness and fear. Then, the associations between the characteristics of their photos and the emotions and coping strategies from their diary entries were analyzed. For example, emotional support and joy were positively associated with family, pets, and food, while fear and sadness were represented with objects. Implications of the results are discussed, including considerations about using photo diaries during collective disasters.*

**Keywords:** COVID-19, Photo diaries, Emotions, Coping, University students

### 1. Introduction

On March 9<sup>th</sup>, 2020, the Italian government enforced nationwide lockdown measures to reduce the risk of infection due to COVID-19. People must stay at home and several restrictions such as travel ones and the closure of schools and nonessential commercial activities and industries were aimed at socially isolate themselves. On March 12<sup>th</sup>, 2020, there were 15,224 infected people and daily growth of approximately +5,000 per day. Lockdown measures were partially eased in the first days of May 2020, that is, after about two months of stay-at-home orders.

The mandatory social confinement, the closures of schools and universities, emergency remote learning, and restricted face-to-face relationships with peers have negatively impacted people's lives, especially younger people's (Rossi et al., 2020). Indeed, social opportunities and interactions are highly valuable for youths, whose evolutionary tasks tightly deal with autonomy and independence boosts, as well as with identity definition (Beyers et

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al., 2003). In this vein, many studies focused on the adverse effects of the pandemic and the related social distancing measures on the physical and psychosocial well-being of young people, e.g., university students (Gallè et al., 2020; Marelli et al., 2021; Prati, 2021; Procentese et al., 2020; Quintiliani et al., 2021). However, few studies have explored the daily lives of students, the emotions they experienced during the pandemic, and what strategies they implemented to cope with the difficulties of that moment (Di Napoli et al., 2021; Gatti & Procentese, 2021; Marzana et al., 2021; Migliorini et al., 2021; Procentese et al., 2021).

Specifically, several studies have documented the impact of pandemic COVID-19 on the mental and physical health of young adults (Parola et al., 2020). First, the sedentary behaviors increased significantly in the daily lives of young people during the lockdown, with more time spent using electronic devices (Gallè et al., 2020). The lockdown has also affected sleep quality (Cellini et al., 2020), with an increase in insomnia symptoms, and this impact was higher in students than in workers (Marelli et al., 2021).

Concerning the psycho-emotional aspects, people showed depressive or anxious symptoms during the lockdown, particularly students (Marelli et al., 2021). Learners experienced an increase in perceived stress, as well as a decrease in attention span and difficulty in studying (Baloran, 2020; Quintiliani et al., 2021). Indeed, student status was significantly associated with a greater psychological impact of the pandemic and higher levels of stress, anxiety, and depression (Wang et al., 2020). Overall, the nationwide lockdown has led to negative mental health consequences (Brooks et al., 2020; Prati, 2021).

Nevertheless, the feeling of being part of an academic community in which their opinion mattered and which they could improve by actively engaging proved to represent protective factors in the face of this increased stress (Procentese et al., 2020). Further, resilience skills were a protective factor to overcome difficulties in studying and interpersonal relationships (Quintiliani et al., 2021) and positive emotions moderate the effect of resilience on social wellbeing (Arslan, 2021). Youths revealed adaptive coping strategies, e.g., planning their daily routine, engaging in structured activities, and developing new interests (Baloran, 2020; Pigaiani et al., 2020; Procentese et al., 2021). Individuals experienced fear of loneliness, but they also had a positive experience of reflexivity and better self-awareness by developing new personal perspectives (Gattino et al., 2022; Migliorini et al., 2021).

Some people experienced posttraumatic growth (Jenkins et al., 2021; Ulset & von Soest, 2022), i.e., positive changes after challenging life crises such as the COVID-19 pandemic (Tedeschi & Calhoun, 2004). People may have experienced this aversive event as a springboard for personal growth and development. Indeed, a higher level of posttraumatic growth was positively associated with positive mental health and higher engagement in prosocial behaviors (Canale et al., 2021).

Overall, this historic moment has represented a unique and unprecedented event in people's lives, which touched everyone worldwide. To our knowledge, no study has used photography to explore the daily life of students who experienced lockdown, that is, staying at home, away from university life and face-to-face relationships and interactions with other students and professors. For this reason, the present study explored the daily life of university students under lockdown restrictions through photo diaries.

### **1.1 Using photo diaries**

Mobile communication and visual language (i.e., photographs and images) are crucial in

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human life, and participatory methodologies should be adapted to suit participants' needs in the research process (Branquinho et al., 2020; Kim, 2016; Volpe, 2019).

Photo diaries are an adaptation of the photovoice method and consist of gathering data in the field, as people are engaged to reflect on the 'everydayness' of their lives through their pictures and short texts (Bellar, 2017; Shankar et al., 2018; Staiano et al., 2012; Volpe, 2019). According to the photovoice, participants can capture their living context and visually express their ideas and emotions by shooting photographs. They are considered the real experts as they are those who experience the contexts investigated (Wang & Burris, 1997).

Photovoice has been implemented in different contexts with different populations (Catalani, & Minkler, 2010) and several adaptations of the methodology have been made over the years (e.g., Derr, & Simons, 2020; Gaboardi et al., 2022). It aims for empowerment of participants and social change. Indeed, also the adaptations of this method have testified how the use of photography can help participants have greater awareness about issues important to them, be able to express latent ideas and emotions that are difficult to express in words, gain greater control over their lives and environment (Foster-Fishman et al., 2005; Junaedi et al., 2022). Visual research methods may offer a more immediate, holistic, and person-centered approach. They may be useful in gaining a nuanced understanding and in eliciting implicit ideas, emotions, and experiences (Kahu, & Picton, 2022).

In accordance with this, photo diaries allow collecting information as it happens, complementing text with a photograph (Shankar et al., 2018). As evidenced by other experiences of photovoice involving different cities and contexts (Gaboardi et al., 2022), it is important to match the text to the photo in order to properly interpret the image based on what the person who took it wants to convey. In addition, we can consider the choice of words that accompanies the photos as a reflection of the identity and mental states of the narrators (Gatti et al., 2021). Language is actually one of the most important tools for translating mental content into an explicit and communicable form (Tausczik & Pennebaker, 2010). If it is true that narrative has the power to transform the extraordinary into the ordinary, to construct meaning, to rework events, to share and produce alternative versions of reality (Bruner, 1991; Smorti, 2007; Veglia & Di Fini, 2017), then analyzing the photographs and the words chosen to narrate the pandemic can be an opportunity to access individuals' experiences iconographically, semantically, and linguistically.

During the COVID-19 pandemic, the use of diaries with students proved to be a useful tool to deepen how they experienced lockdown measures (Procentese et al., 2021). However, few studies have rather used photography to document the COVID-19 pandemic experience, e.g., international photo-elicitation research with medical students (Dworkin et al., 2021), an extended photo essay in a Canadian University (Metcalf, 2021), an Instagram-based project about experiencing urban spaces while staying at home during COVID-19-related lockdown in Italy (Gatti et al., 2021), and a photovoice project on the factors associated with physical distancing compliance among young adults in Indonesia (Junaedi et al., 2022).

Further, to our knowledge, no research has applied photo diaries to document the day-by-day experience of students throughout the lockdown. Therefore, we decided to use this methodology for three main reasons.

First, we aimed at collecting the point of view of a section of the population that has been one of the most affected by the lockdown measures, particularly by the closure of universities and social distancing at a stage of life when education and relationships are key elements for development (Beyers et al., 2003; Branquinho et al., 2020; Procentese et al., 2021).

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Second, qualitative methodologies are able to capture the voice of the participants (Branquinho et al., 2020; Varma et al., 2021) in a more dynamic and engaging way, i.e., the taking of the photographs. In fact, many students were involved in different quantitative research that required the completion of questionnaires during the months of lockdown. Photo diaries may provide an opportunity to reflect on their experience without additional paperwork, freely choosing the most appropriate time during the day to complete it, and personally selecting the content to submit, without the risk of interruption by family members or cohabitants or potential technological limitations (Varma et al., 2021). Moreover, most of the people use smartphone to take pictures especially the younger that are increasingly using mobile phones to connect with their peers and communicate what they are doing in the daily life (Mihailidis, 2014).

Third, photo diaries seem suitable for exploring participants' daily lives and hard-to-reach contexts (such as their homes during lockdown). They may provide a way to elaborate one's experiences through verbal and visual autobiographical narrative, providing a chance to keep track of the "pandemic" days. Finally, photo diaries provide a way to get to know the lives and homes of participants in a non-invasive way, such as camera interviews or focus groups on online platforms may have been since students were already overloaded due to remote teaching (Varma et al., 2021).

## **1.2 Aims of the study**

The main goal of this research was to explore university students' lockdown experience during COVID-19 pandemic in order to understand their emotions and the coping strategies they played out during their daily lives at home through photo diaries. Further, another contribution of the present study is to adopt a methodology – i.e., photo diaries – that enabled us to explore how individuals express the emotions they feel and coping strategies they play out during a collective disaster - as the COVID-19 outbreak has been – by looking at the associations between the characteristics of their photos and the emotions and coping strategies emerging from their diary entries (e.g., which are the subjects and environments they associated with certain emotions or coping strategies).

## **2. Method**

### **2.1 Participants and procedure**

The current study was run in six Italian universities (Universities of: Chieti, Florence, Padua, Naples Federico II, Palermo, and Turin). A convenience sample of 109 participants (87.2% female; age:  $M = 21.82$ ,  $SD = 5.7$ ; age range: 21-28 years old + two people aged 58 and 68) was recruited by presenting the research during the Community Psychology courses in each University. All participants contributed equally to the study, and none of them dropped off. Frequent contact between professors and participants who were taking courses fostered continuity in participation in the study.

The characteristics of the participants are in Table 1. Most of the participants were females, which is in line with the proportion of women studying psychology in Italian universities, while age skewed towards younger participants with 98.1% being under the age

of 28, meeting the age distribution of the Italian population of university students (Istat, 2016).

**Table 1. Characteristics of the students involved in the research (n = 109)**

<i>Characteristics of the students</i>	<i>n (%)</i>
University of belonging:	
- University of Chieti	5 (4.6)
- University of Florence	23 (21.1)
- University of Naples Federico II	36 (33)
- University of Padua	11 (10.1)
- University of Palermo	14 (12.8)
- University of Turin	20 (18.3)
Territorial area during lockdown:	
- North	30 (27.5)
- Center	24 (22)
- South	55 (50)
Housing condition:	
- Alone	4 (3.7)
- With partner	5 (4.6)
- Family	72 (66.0)
- Friends/ Roommates	5 (4.6)
- Did not provide this information	23 (21.1)

The data were collected through the photo diaries method during March-April-May 2020 in two steps: T1 was during the third week of lockdown (25-31 March) and T2 was during the penultimate week before the ease of lockdown measures (22-18 April), as announced by National authorities. Participants completed consent forms and took part in the study voluntarily without financial compensation. The voluntary nature of participation and the fact that participation would not influence their student status in any way were emphasized. The University of Padua Ethics Committee approved the research.

The activity required each student to take one photo per day, for one week in T1 and one week in T2, representing their mood during their daily life at home. The assignment explained: "At this time of the ongoing health emergency, we would like to propose you an online activity that can help you reflect on how you are living these days at home". Along with the photo, they were to give it a title and a brief description (maximum 400 words) answering the following questions: a) describe the content of the photograph; b) why did you take this photograph?; c) what did you want to represent through this photograph?; d) how does it relate to your experience during this time of health emergency?

The only indication was to take a photograph that represented their mood with respect to the pandemic, even in a symbolic way. The assignment had no specific indication of the type of photograph and left the freedom to choose what to represent, as long as it was related to the pandemic experience. The photo with the text was due by midnight on the day it was taken. Participants sent every day all their materials (photo, title, and brief description) to the unit contact professor in a Word file. Overall, 1,526 photographs were collected.

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## 2.2 Data analysis

Authors jointly created an Excel grid for the analysis of the photographs, which included the categories considered relevant in describing them: environment (indoor or outdoor) and subjects of the photos (food, objects, natural elements, people, pets). People were further classified in oneself, significant relationships (friends, family), and other people.

Intra-university pairs of researchers independently analyzed the materials by identifying the present elements in each photo according to the above-mentioned categories (by assigning a numerical code to each one) and by labeling the texts with the predominant emotions and the actions that were described using verbal forms. Then, to ensure reliability, doubts or disagreements were discussed within the couples of researchers until consensus was reached. Moreover, several online meetings took place to allow cross-pairs comparisons, usually with the participation of 6–10 researchers.

In a second step, the emotions and actions emerging from participants' diaries were re-coded by two independent coders. After reading the texts of the photographs, all the researchers involved in the study proposed theoretical models that could classify the emerged emotions and coping strategies. After several meetings, agreement was reached about using Plutchik's theory (2001) for basic emotion, as he proposes eight emotions and their intensities in a multi-dimensional model, and Carver's model (1997) for coping strategies, since it was already used in several studies involving disasters.

Indeed, Plutchik (2001) proposed an approach to conceptualizing emotions based upon evolutionary ideas, starting from eight basic emotions: Joy, Trust, Surprise, Anticipation, Fear, Anger, Sadness, Disgust. This model has also been used in other studies concerning emotions during the COVID-19 pandemic (e.g., Xue et al., 2020).

Carver (1997) summarized 14 types of coping strategies: 1) Active Coping; 2) Planning; 3) Positive Refraining; 4) Acceptance; 5) Humor; 6) Religion; 7) Emotional Support; 8) Instrumental Support; 9) Self-Distraction; 10) Denial; 11) Complaining; 12) Substance Use; 13) Behavioral Disengagement; 14) Self-Blame. Different studies used Carver's classification to analyze coping strategies among populations during the COVID-19 pandemic (e.g., Dawson & Golijani-Moghaddam, 2020; MacIntyre et al., 2020; Procentese et al., 2021).

To avoid interpretation of data as much as possible and stick to participants' experiences, two young master students who had participated in the research were involved in the analysis of emotions and actions, under the supervision of a post doc research fellow and a full professor.

As all the variables in the study were categorical ones, in order to summarize the relationships among them dummy variables (0 = *Not in the photo/text*; 1 = *In the photo/text*) were created for each category [that is, food, objects, natural elements, oneself, significant relationships (friends, family), other people, pets, self-distraction, acceptance, emotional support, behavioral disengagement, complaining, religion, planning, positive reframing, active coping, self-distraction, emotional support, joy, trust, surprise, anticipation, fear, anger, sadness, disgust]. For outdoor or indoor environments, a unique dummy was created (0 = *Indoor environment*; 1 = *Outdoor environment*). Further, three more categories were added to the above-mentioned ones: a category named "opposite emotions" was used when coders identified conflicting emotions in the same entry, one named "unidentifiable coping strategy" was used when coders were not able to categorize the expressed coping strategy by referring to Carver's ones, and one named "unidentifiable location" was used when coders

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were not able to determine whether the environment was an internal or external one based on the photo.

Descriptive statistics were observed for all the variables in the study. In order to explore which characteristics of the photographs were related to specific emotions and/or coping strategies, crosstabs (contingency tables) with correlation index were run (Everitt, 2019) with T1/T2 as the control variable. As to emotions and coping strategies, only the dummies with an overall frequency ( $n$ ) equal to or greater than 100 were included; as to the elements identified in the photos, all the variables were included. The analyses were carried out by using the software Statistical Package for Social Science (SPSS), version 26.0.

All the data were analyzed in Italian and the descriptions of the selected examples of photographs were translated in English only for including them in this paper. The sample photographs were chosen randomly among the photos with the most recurrent themes, one for each University. The codes after the sample descriptions indicate: the name of the University, first letter of the participants, number of the time of the research (first or second week), and the day of the week.

### ***2.3 Researchers' reflexivity***

The researchers were all community and/or clinical psychologists with experience in qualitative research. This allowed analyzing the data focusing on both the individual and the context, consistently with an ecological perspective (Bronfenbrenner, 1977). Moreover, the professors involved were teaching courses attended by the participants. On the one hand, this may have fostered participation and motivation among the participants, who appreciated professors' attention to their experience. On the other hand, it may have influenced the results by limiting the telling of negative experiences, as we will address in the research limitations section.

## **3. Results**

### ***3.1 Photographs***

As shown in Table 2, in most photographs ( $n = 728$ ) the environment was unidentifiable because the subject of the photo was too close to the camera lens and did not allow understanding whether the environment was an indoor or outdoor one. The main subjects of the photographs were objects ( $n = 886$ ; e.g., computers, books, games), followed by natural elements ( $n = 231$ ; e.g., flowers, plants, sea, sunsets), people (including oneself, significant others, and other people;  $n = 222$ ), and food (both cooked and bought;  $n = 169$ ). Pets only were in 89 photos. Overall, the frequencies in T1 and T2 were similar.

### ***3.2 Emotions and coping strategies***

Table 3 shows the frequency of the categorized emotions and coping strategies. The most frequent coping strategy was self-distraction ( $n = 857$ ), followed by complaining ( $n = 183$ ), positive reframing ( $n = 152$ ), and emotional support ( $n = 151$ ). Regarding emotions, most participants expressed positive emotions (among which joy,  $n = 518$ , and anticipation,  $n =$

280, emerged), but also sadness ( $n = 334$ ) and fear ( $n = 111$ ). The frequencies in T1 and T2 were similar.

**Table 2. Characteristics of the photographs ( $n = 1,526$ )**

<i>Characteristics of the photographs</i>	Total (1,526 photos) <i>n (%)</i>	Week I (763 photos) <i>n (%)</i>	Week II (763 photos) <i>n (%)</i>
<b>Environment:</b>			
- Unidentifiable	728 (47.7)	366 (48)	362 (47.4)
- Indoor	336 (22)	190 (24.9)	146 (19.1)
- Outdoor	462 (30.3)	207 (27.1)	255 (33.4)
<b>Subjects*:</b>			
- Oneself	88 (5.8)	45 (5.9)	43 (5.6)
- Significant relationships	107 (7)	49 (6.4)	58 (7.6)
- Other people	27 (1.8)	15 (2)	12 (1.6)
- Pets	89 (5.8)	59 (7.7)	30 (3.9)
- Food	169 (11.1)	88 (11.5)	81 (10.6)
- Objects	886 (58.1)	445 (58.3)	441 (57.8)
- Natural elements	231 (15.1)	104 (83.5)	127 (16.6)

*Note.* In the photo sometimes both people and objects were present

**Table 3. Emotions & Coping strategies in the diary entries**

<i>Coping strategies</i>	Total (1,526 photos) <i>n (%)</i>	T1 (763 photos) <i>n (%)</i>	T2 (763 photos) <i>n (%)</i>
Unidentifiable	60 (3.9)	33 (4.3)	27 (3.5)
Self-Distracton	857 (56.2)	418 (54.8)	439 (57.5)
Acceptance	64 (4.2)	28 (3.7)	36 (4.7)
Emotional Support	151 (9.9)	88 (11.5)	63 (8.3)
Behavioral Disengagement	9 (0.6)	4 (0.5)	5 (0.7)
Complaining	183 (12)	83 (10.9)	100 (13.1)
Religion	7 (0.5)	7 (0.9)	1 (0.1)
Planning	7 (0.5)	6 (0.8)	0
Positive Reframing	152 (10)	76 (10)	76 (10)
Active Coping	6 (0.4)	4 (0.5)	2 (0.3)
Self-Distracton & Emotional Support	30 (2)	16 (2.1)	14 (1.8)
<b>Emotions</b>			
Joy	518 (33.9)	259 (33.9)	259 (33.9)
Trust	87 (5.7)	57 (7.5)	30 (3.9)
Surprise	18 (1.2)	8 (1)	10 (1.3)
Anticipation	280 (18.3)	115 (15.1)	165 (21.6)
Fear	111 (7.3)	46 (6)	65 (8.5)
Anger	19 (1.2)	9 (1.2)	10 (1.3)
Sadness	334 (21.9)	183 (24)	151 (19.8)
Disgust	35 (2.3)	21 (2.8)	14 (1.8)
Opposing emotions	123 (8.1)	65 (8.5)	58 (7.6)

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### 3.3 Correspondences between the elements of photographs and the emotions and/or coping strategies

Table 4 shows the frequency of correspondences between emotions and coping strategies and what was depicted in the photographs, and the correlations between them.

As to coping strategies, emotional support was positively associated with family/friends ( $r = .32, p < .001$ ; see Picture 1), pets ( $r = .18, p < .001$ ; see Picture 2), indoor environments ( $r = -.11, p < .001$ ), and food ( $r = .15, p < .001$ ; see Picture 3), while it was negatively associated with photos depicting natural elements ( $r = .10, p < .001$ ).

*(Picture 1) In the photograph, my father is playing a “solitaire” [...]. This photograph represents a special “rediscovered” daily moment to me, because when I was a child my grandmother and my father often played solitaire and I remember that, when they succeeded, I was always amazed by this “magic”. Being forced to stay at home allowed me to recover this tradition and a few more moments to spend with my family. Between study and work, it is often difficult to carve out quality time with the people we love in our daily lives; so, having to stay home is also an opportunity to get together to me. [...] This photograph symbolizes the luck of being able to rediscover and experience quality time with my family to me. (#UNIPD, M., 1/1)*

**Picture 1. “Solitario”**



**Picture 2. The end**



*(Picture 2) This is my beloved cat, Tinker Bell. I took this photo because she is the only one that really makes my heart feel good in these days. She is constantly looking for a caress from me, and if I don't give it to her, she rubs her feet on mine, between my legs as I walk, as if to say: ‘I am here for you, be here for me’. She represents the beauty of this lockdown, my joy and my well-being. Without a doubt, her presence affects my days. I do not know what I would have done without her during these months. My mother works every day and I am always alone at home, but with her I do not feel lonely, she has become the one who cuddles me and makes me feel serene because watching her sleep on my arm – like in this photo – can only calm all the internal turbulence. (#UNIFI, B., 2/7)*

**Table 4. Frequencies and correlations between the characteristics of the photographs and emotions and coping strategies**

<i>Coping/emotions</i>	T	Environment <sup>^</sup>	Themselves	Significant relations	Other People	Pets	Food	Objects	Natural Elements
Self-Distraction	1	104 (-.08)	30 (.05)	13 (-.16***)	4 (-.08*)	29 (-.04)	67 (.14***)	252 (-.06)	55 (-.05)
	2	140 (-.06)	30 (.05)	20 (-.14***)	5 (-.05)	9 (-.12***)	61 (.11**)	275 (.02)	64 (-.11**)
	<b>Total</b>	<b>244</b> (-.07**)	<b>60</b> (.05*)	<b>33</b> (-.15***)	<b>9</b> (-.07**)	<b>38</b> (-.08**)	<b>128</b> (.12***)	<b>527</b> (-.02)	<b>119</b> (-.08**)
Emotional Support	1	15 (-.11**)	4 (-.03)	27 (.32***)	5 (.08*)	22 (.2***)	22 (.18***)	47 (-.02)	1 (-.14***)
	2	15 (-.09**)	1 (-.06)	25 (.3***)	0 (-.04)	9 (.13***)	14 (.12**)	34 (-.03)	6 (-.06)
	<b>Total</b>	<b>30</b> (-.11***)	<b>5</b> (-.05)	<b>52</b> (.32***)	<b>5</b> (.03)	<b>31</b> (.18***)	<b>36</b> (.15***)	<b>81</b> (-.02)	<b>7</b> (-.1***)
Complaining	1	25 (.02)	4 (-.02)	2 (-.06)	1 (-.02)	6 (-.01)	3 (-.09*)	52 (.03)	16 (.06)
	2	31 (.02)	4 (-.03)	7 (-.01)	2 (.01)	5 (.02)	4 (-.09*)	66 (.09*)	13 (-.04)
	<b>Total</b>	<b>56</b> (.00)	<b>8</b> (-.02)	<b>9</b> (-.03)	<b>3</b> (-.00)	<b>11</b> (.00)	<b>7</b> (-.09***)	<b>118</b> (.06*)	<b>29</b> (.01)
Positive Reframing	1	33 (.12***)	1 (-.06)	5 (.00)	0 (-.05)	2 (-.06)	5 (-.06)	39 (-.08*)	23 (.17***)
	2	39 (.12***)	2 (-.04)	6 (.00)	2 (.03)	4 (.02)	7 (-.01)	29 (-.16***)	28 (.2***)
	<b>Total</b>	<b>72</b> (.12***)	<b>3</b> (-.05*)	<b>11</b> (.00)	<b>2</b> (-.01)	<b>6</b> (-.03)	<b>12</b> (-.04)	<b>68</b> (-.12***)	<b>51</b> (.18***)
Joy	1	59 (-.07)	12 (-.04)	29 (.14***)	7 (.04)	28 (.08*)	50 (.21***)	128 (-.12**)	28 (-.05)
	2	91 (.03)	19 (.05)	31 (.19***)	4 (-.00)	16 (.09*)	42 (.16***)	118 (-.16***)	47 (.05)
	<b>Total</b>	<b>150</b> (-.02)	<b>31</b> (.01)	<b>60</b> (.13***)	<b>11</b> (.02)	<b>44</b> (.08***)	<b>92</b> (.18***)	<b>246</b> (-.14***)	<b>75</b> (.00)
Anticipation	1	24 (-.06)	9 (.03)	2 (-.08*)	2 (-.01)	4 (-.07)	18 (.04)	72 (-.01)	15 (-.02)
	2	51 (-.03)	9 (-.00)	6 (-.08*)	3 (.01)	5 (-.02)	16 (-.03)	106 (.05)	25 (-.03)
	<b>Total</b>	<b>75</b> (-.04)	<b>18</b> (.01)	<b>8</b> (-.08**)	<b>5</b> (.00)	<b>9</b> (-.05*)	<b>34</b> (.00)	<b>178</b> (.02)	<b>40</b> (-.02)
Sadness	1	68 (.13***)	10 (-.01)	11 (-.01)	1 (-.06)	16 (.02)	7 (-.14***)	110 (.06)	30 (.06)
	2	44 (-.04)	3 (-.08*)	11 (-.01)	3 (.02)	1 (-.08)	12 (-.06)	109 (.12**)	17 (-.09*)
	<b>Total</b>	<b>112</b> (.04)	<b>13</b> (-.04)	<b>22</b> (-.01)	<b>4</b> (-.02)	<b>17</b> (-.01)	<b>19</b> (-.1***)	<b>219</b> (.09***)	<b>47</b> (-.02)
Fear	1	9 (-.04)	4 (.03)	2 (-.02)	0 (-.03)	0 (-.07*)	2 (-.07)	36 (.09*)	4 (-.05)
	2	19 (-.03)	5 (.03)	1 (-.07)	1 (-.00)	2 (-.01)	5 (-.03)	41 (.03)	10 (-.01)
	<b>Total</b>	<b>28 (-.03)</b>	<b>9 (.03)</b>	<b>3 (-.05)</b>	<b>1 (-.02)</b>	<b>2 (-.05)</b>	<b>7 (-.05)</b>	<b>77 (.06*)</b>	<b>14 (-.03)</b>
Opposing emotions	1	18 (.00)	3 (-.02)	2 (-.04)	0 (-.04)	3 (-.04)	6 (-.03)	46 (.05)	7 (-.04)
	2	26 (.07)	4 (.02)	4 (-.01)	0 (-.04)	3 (.02)	3 (-.05)	32 (.01)	11 (.03)
	<b>Total</b>	<b>44 (.03)</b>	<b>7 (-.00)</b>	<b>6 (-.02)</b>	<b>0 (-.04)</b>	<b>6 (-.01)</b>	<b>9 (-.04)</b>	<b>78 (.03)</b>	<b>18 (-.01)</b>

Note. ^ Environment (0 = indoor; 1 = outdoor); \*p < .05. \*\*p < .01. \*\*\*p < .001. We selected only the emotion/coping strategies with a frequency > 100.

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*(Picture 3) I'm feeling more peaceful today...after all, outside or inside the house, it still is Saturday. When I think of Saturday, only one thing comes to my mind... pizza! It would not be a worthy Saturday night if it was not there, and the tradition is not broken by staying home either, quite the contrary. It is probably one of the most awaited times of the week during this time of confinement, and the whole family is in the kitchen to help. Little things that help so much in times like this. (#UNINA, D., 1/4)*

**Picture 3. Pizza**



Conversely, positive reframing was represented with outdoor environments ( $r = .12, p < .001$ ), and natural elements ( $r = .18, p < .001$ ; see Picture 4), while it was negatively associated with selfies ( $r = -.05, p < .05$ ) and objects ( $r = -.12, p < .001$ ). Complaining was associated positively with objects ( $r = .06, p < .05$ ) yet negatively with food ( $r = -.09, p < .001$ ). The latter was the subject of photographs narrating of self-distraction strategies ( $r = .12, p < .001$ ), as well as selfies ( $r = .05, p < .05$ , see Picture 5) and indoor environments ( $r = -.07, p < .01$ ), while this coping strategy was negatively associated with significant others ( $r = -.15, p < .001$ ), other people ( $r = -.07, p < .01$ ), pets ( $r = -.08, p < .01$ ), and natural elements ( $r = -.08, p < .01$ ).

*(Picture 4), Roses, yes them, so strong and resilient to seasonal weathers but always resistant. Today, I identify a lot with them: despite the dark times, we are able to be reborn stronger than before, just like roses. Courage, come on...we will succeed! (#UNIPA, M., 2/5)*

**Picture 4. I love nature**



**Picture 5. Book therapy**



*(Picture 5) When the answers to your questions cannot be found outside, look within yourself. During this health emergency, I found refuge in reading, which has always been my safe haven. Everything that I could not do physically, I tried to do with the imagination. I wore the clothes of characters totally distant from me, I perceived perfumes, lived seasons. I felt restlessness, nostalgia, melancholy, joy, anger, sadness, tenderness. Emotions so true within this parenthesis of a so artificial reality. I believe that a good book is able to warm the heart, restore the soul, and instill courage in times of difficulty. This shot, which portrays me, wants to convey the strength that our psyche exerts*

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*when not being able to look out into the world: it looks deep inside ourselves, allowing us to reconcile with the most intimate part of our ego. (#UNICH, D., 1/1)*

As to emotions, joy was represented with family members ( $r = .13, p < .001$ ; see Picture 6), pets ( $r = .08, p < .001$ ; see Picture 7), and food ( $r = .18, p < .001$ ), while it was negatively associated with objects ( $r = -.14, p < .001$ ). Conversely, fear ( $r = .06, p < .05$ ) and sadness ( $r = .09, p < .001$ ) were positively associated with objects, while sadness was negatively associated with food ( $r = -.10, p < .001$ ). Last, anticipation was negatively associated with both significant others ( $r = -.08, p < .01$ ) and pets ( $r = -.05, p < .05$ ).

**Picture 6. Family**



*(Picture 6) The photo shows my parents in the balcony of my house [...]. I wanted to represent the fact that, regardless of what is happening in the world and the emergency we are facing, my parents are a safe haven; even if these days we quarrel, even if many times I cannot wait to leave home, even if I always tell them that they are heavy and apprehensive, even if I have been living alone in Palermo for four years, going back to them, on the evening of the first decree of March 8th, was my first thought. (#UNIPA, B., 2/4)*

*(Picture 7) In this picture is "Mia", my dog.*

*Whenever I get to study at my desk she gets in my bed and sleeps as if she wants to keep me company, and I really enjoy having her near me. These days, we read a lot of fake news about the coronavirus and one of them is that animals can be infectious. I think misinformation and fear are a lethal mix fueling the stress and psychological pressure that each of us is feeling these weeks. I chose this photo because it gives me peace: it helps me a lot, it relaxes me. (#UNITO, D., 1/4)*

**Picture 7. Head in the clouds**



Analyses showed some differences between T1 and T2 (see Table 4). As to coping strategies, self-distraction was negatively associated with pets and natural elements, but this association was significant only in T2, as well as the correlation between complaining and objects. Emotional support was positively associated with other people ( $r = .08, p < .05$ ) and negatively associated with natural elements ( $r = -.14, p < .001$ ) only in T1. Greater changes between the two times are in emotions, particularly sadness. In T1 sadness was positively associated with outdoor environment ( $r = .13, p < .001$ ) and it was negatively associated with food ( $r = -.14, p < .001$ )

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but not in T2, while it was negatively associated with selfies ( $r = -.08, p < .05$ ) and natural elements ( $r = -.09, p < .05$ ) and positively associated with objects ( $r = .12, p < .01$ ) only at T2. Conversely, fear ( $r = .09, p < .05$ ) was positively associated with objects only in T1.

#### 4. Discussion

The main goal of this research was to explore students' lockdown experience during COVID-19 pandemic through photo diaries. The photographs, combined with the texts, allowed to learn about their daily experience: through the photographs they took, we "entered" their homes to "see" their daily lives. Consistently, as mentioned before, a further contribution of the present study was the adoption of a methodology that allowed the exploration of how participants expressed their emotions and the coping strategies through photography (e.g., which are the subjects and environments they are associated with certain emotions or coping strategies).

The collected photographs often provide information about the different activities the participants engaged into to distract themselves from stay-at-home orders. Indeed, self-distraction seems to be the most frequent coping strategy, often represented with indoor environments, selfies, and foods. These associations seem consistent with the circumstances, which implied that indoor environments were the only ones where participants could detect activities able to distract themselves from the forced lockdown – and taking selfies and taking care of oneself might have been some of these. In line with this, other studies already showed how engaging in daily activities and routines helped youth cope with the pandemic (Baloran, 2020; Pigaiani et al., 2020; Procentese et al., 2021), especially through a polyregulation, that is, the concurrent or sequential use of different strategies to cope with stressors (Lischetzke et al., 2021). Further, cooking clearly stemmed as a common self-distracting hobby among Italian citizens living under lockdown circumstances. This hobby could have also represented a source of emotional support, since citizens often cooked with their relatives and households, making it a moment of conviviality and meeting among households (Procentese et al., 2021). Consistently with this, emotional support coping strategies were often represented by capturing significant others, food, and indoor environments. In addition, pets were associated with this kind of coping strategy too, suggesting that also the relationships with pets may have represented an important source of emotional support and relief – as family members did – for youths being under lockdown measures (Vincent et al., 2020).

Overall, on the one hand, food, pets, and finding time to be with significant others appeared to be protective factors, which were often associated with joy too. Indeed, surprisingly, many photographs showed positive aspects of staying at home, such as finding time for oneself and loved ones, in line with other Italian studies (Migliorini et al., 2021; Procentese et al., 2021). In this suspended time, and in a limited space in boundaries but expanded in interpersonal distances, the photographic focus on food and its preparation might reflect a narrative attempt to create a stable and easily shared routine. Similarly, the image of the natural elements, which was associated with positive reframing, could have represented a resource in terms of self-regulation and reassurance brought about by a return to a more fundamental and constant cycle of nature. Nevertheless, on the other hand, photos capturing significant others and pets were also negatively associated with diary entries about anticipation, suggesting that a focus on what was about to happen in the next future took youths' attention away from these protective factors – which may be due to the strong

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uncertainty which characterized the first months of COVID-19 outburst as to how the pandemic would have evolved.

Conversely, natural elements showed a negative association with emotional support and self-distraction coping strategies, while they were more frequent in photographs associated with texts describing positive reframing coping strategies – as outdoor environments did too. This may suggest that natural elements – that is, those elements from which participants were kept away by stay-at-home orders – were those on which individuals focused when they were not in the mood for self-distraction but rather were to endeavor to look at the circumstances they found themselves in differently (e.g., by focusing on the positive sides). In this vein, outdoor environments and natural elements could have reminded two main acknowledgments: first, nature could be used as a metaphor of something that had not been frozen by stay-at-home orders and was rather gaining something good from them (Procentese et al., 2021); second, outdoor natural elements and environments may have served as reminders of what was waiting for them outside of their houses as soon as stay-at-home orders would have been eased. Further, and consistently with this, positive reframing coping strategies were negatively associated with pictures portraying the participants (e.g., selfies) or house objects – which may have rather made participants focus on their indoor life and daily routines and on how these had (re-)shaped due to stay-at-home orders. In the same vein, pictures portraying significant others, pets, and other people at large were negatively associated with self-distraction coping strategies, since these are all subjects that may have rather reminded participants of the daily life, routines, and social opportunities they had been forced to pause due to lockdown measures.

However, there were also several photographs telling of dysfunctional coping strategies and negative emotions, such as complaining, fear, and sadness, which can lead to more serious problems such as anxiety and depression (Marelli et al., 2021). With reference to this, all of them were more likely to be expressed via photographs representing objects, while sadness and complaining coping strategies were also less likely to be expressed via photographs capturing foods. Overall, this suggests that house items and other kinds of objects (e.g., laptops) were more likely to be used to represent negative moods and reactions to lockdown measures. These associations may make sense when thinking about these items as those that furnish and fulfill the *prison* participants felt locked into (e.g., house items) and that allow them to keep in touch with others out of that *prison* (e.g., laptop) at the same time – that is, they may have been connoted as items reminding of the *prison* they got locked into in a twofold way. In the same vein, the photos portraying objects showed a negative association with the diary entries expressing joy.

Viewing the collected photographs as a form of narrative about oneself and one's everyday life can shed light on how participants experienced the temporality of the considered period by relating the sudden and traumatizing scenario of COVID-19 health emergency to their habits and relationships of proximity and closeness. Trauma creates a rupture in the habitual way of experiencing and challenges pre-existing hypotheses about time, identity, and the meaning of life itself (Alexander & Smith, 2020; De Vincenzo et al., 2021; Solano, 2009). The traumatic narrative is characterized by fragmentation, by the loss of structural and thematic coherence, by the presence of sensory elements, by temporal disorientation (Crespo and Fernandez-Lancas, 2016; Di Fini & Veglia, 2019; Siegel, 2015; Van der Kolk, 2014;). The progressive adaptation implies a narrative development that tends towards an ever-greater integration and assimilation of the traumatic experience within autobiographical memory

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(Halligan et al., 2003). The prevalence of unidentifiable environments and objects depicted in the photographs seems to highlight a focus on the specific and sensory detail of the experience, with the consequent inability to evoke the overall picture in which the detail is integrated. The traumatic scale of the pandemic as a threatening, overwhelming, and destabilizing event may have led to the portrayal of a suspended and ill-defined time in which the search for specific detail helps to give form and a temporal mapping.

The implications of these findings address both some of the protective or hindering factors that may influence participants' experience of the pandemic and the usefulness of the method used in this research. As the results show, family members and pets play a protective role in the pandemic experience by providing emotional support to participants. Then, adopting strategies that reduce loneliness may decrease negative mental health symptoms (Racine et al., 2021) and the role of social support is crucial since perceived support in close relationships can protect people from developing psychopathological symptoms (Ferber et al., 2021). Moreover, the dual function of food needs to be emphasized: it was associated with self-distraction and joy but also with sadness, suggesting that it played a compensatory role in the lives of participants with the risk of incurring in eating disorder behaviors (Racine et al., 2021). Also, the collective dimensions are little explored. Since connectedness and community interactions are crucial for social life, collective actions and initiatives, even if virtual, should be promoted in order to avoid closure in themselves of the participants (Di Napoli et al., 2021) and to allow them maintain contacts with their surrounding community (Gatti et al., 2021). Moreover, a recent study showed that a perceived belongingness to a community is negatively related to anxiety and depression (Ferber et al., 2021). Besides, recent Italian studies showed that several prosocial behaviors were more likely to happen in individuals feeling a higher sense of community responsibility (Aresi et al., 2022; Compare et al., 2021), that is a feeling of personal responsibility for protecting the individual and collective well-being of a community. In turn, the sense of community responsibility was predicted by community members' perception of collective resilience. Future research, for example, could develop strategies to support and share the photographs and emotions/coping strategies connected through comparison and support groups among students.

#### ***4.1 Advantages and challenges of using photo diaries***

In emergency situations such as the pandemic, where the traumatic effects are caused not only by the health risk but also by the inability to benefit from closeness to others because of the needed distance, the use of photo diaries provided a way to organize and elaborate one's experiences: through two different modes of autobiographical narrative, verbal and visual, individuals integrated different aspects of the experience and assimilate them into their own story.

In addition, each unit contact professor used different ways to provide feedbacks the participants about what emerged and talk about these contents with them. For example, at one university, the photographs were discussed among participants during a Zoom meeting. The aim was not to reframe their experience but to get them to reflect on the shared experience they were having by anchoring some themes to what they were studying in the master's course. At another university, the photographs were published in a book about the students' experience during the pandemic (Lavano & Novara, 2021).

The methods of providing feedbacks varied depending also on the availability of time and resources, but the common intent was to give visibility to students' experience by helping

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them reflect on their experience and making them feel less alone at a time of social distancing and isolation such as the pandemic. In this way, one of their main life contexts (i.e., the university) provided them with a space and time to share their experience, thus making them feel valued.

Some students were thankful for this opportunity, also because their voices are often little heard. They had the chance to show their lives and keep track of their “pandemic” days. This is one of the greatest strengths of the photo diary methodology (Shankar et al., 2018; Volpe, 2019). Indeed, some individual feedbacks from the participants during informal class discussions empathized that they benefited from the opportunity to tell their stories and compare their experiences with other students through photo-diaries as a form of storytelling, so that they built meaning into their experiences, elaborating their emotions but also giving voice and creative expression to their days.

Along with the theoretical and practical implications which stem from the present results, another strength relates to the method used and to the analyses that were carried out. Indeed, to the authors’ best knowledge few studies used photography to document COVID-19 pandemic experience (e.g., Dworkin et al., 2021; Gatti et al., 2021; Metcalfe, 2021; Junaedi et al., 2022) and no study used photo diaries – that is, a combination of photographs and texts – to explore University students’ daily life under lockdown restrictions. Nevertheless, such combination shows two main enhancements: first, the joint collection of photos and texts allows to gather participants’ experiences through implicit and explicit means of expression at the same time – which provides enrichment in terms of collected contents; second, it allows to run analyses which are able to combine what emerges from the coding of implicit and explicit data – which provides enrichment in terms of results too.

## **5. Conclusion: Limitations and strengths**

The present research presents some limitations. First, the socio-demographic features of the sample deserve consideration because of the homogeneity of the participants in terms of being students. All the participants attended the community psychology course, and they may be more introspective than in other groups of students. Moreover, a social desirability bias may have depended on participants being students in courses run by the referents of the universities involved, making them show more positive aspects, limiting negative emotions or non-adaptive coping strategies (e.g., substance use was absent). Furthermore, participants with health problems – that could increase their COVID-19-related risk – were not distinguished.

Moreover, socio-demographic variables that may have affected the results were not taken into account. For example, there could have been differences in pandemic experiences based on personal background: family income, nationality, city where one lives, or gender differences. However, considering the distribution of the socio-demographic characteristics of the participants, it was not possible to classify sub-groups. In addition, other factors might have influenced the results (e.g., having had COVID-19 infection, or family members/friends who suffered from COVID-19). Future research could deepen the contextual analysis by taking into account some aspects that were not explored in this research, such as the personal background, the housing situation, the COVID-19 risk in the different zones, and the perceived pandemic risk to self and others.

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The third limitation is methodological. The analysis of the text associated with the photographs may have been subject to interpretation by the researchers as sometimes the emotions were not clearly explicit but more of a “stream of consciousness”. Therefore, independent coders with both clinical and community psychology backgrounds were involved in the data analysis to capture both individual and contextual aspects, and several online meetings were held to compare until agreement was reached. Moreover, young master students who had participated in the research were involved in the analysis of the data too, in order to ensure students spoke about their own lives from their own perspectives. In addition, the choice to use theoretical classifications of emotions (Plutchik, 2001) and coping strategies (Carver, 1997) may have compromised the ability to capture nuances of meaning useful in understanding the complexity of the pandemic situation. Finally, it would have been useful to compare our data with photographs taken at the end of the lockdown to compare emotional states and the possible effect of lockdown restrictions. Unfortunately, engaging students further was not possible, but future studies could use this methodology to capture the long-term effects of COVID-19-related restraints on youth.

Overall, the use of methods and analyses combining photos and texts can open new perspectives as to the deepening of participants’ daily lives and experiences.

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## References

- Alexander, J. C., & Smith, P. (2020). COVID-19 and symbolic action: global pandemic as code, narrative, and cultural performance. *American journal of cultural sociology*, 8(3), 263-269. <https://doi.org/10.1057/s41290-020-00123-w>
- Aresi, G., Procentese, F., Gattino, S., Tzankova, I., Gatti, F., Compare, C., Marzana, D., Mannarini, T., Fedi, A., Marta, E., & Guarino, A. (2022). Prosocial behaviours under collective quarantine conditions. A latent class analysis study during the 2020 COVID-19 lockdown in Italy. *Journal of Community and Applied Social Psychology*, 32(3), 490-506. <https://doi.org/10.1002/casp.2571>
- Arslan, G. (2021). Psychological maltreatment predicts decreases in social wellbeing through resilience in college students: a conditional process approach of positive emotions. *Current Psychology*, 1-11. <https://doi.org/10.1007/s12144-021-01583-0>
- Baloran, E. T. (2020). Knowledge, attitudes, anxiety, and coping strategies of students during COVID-19 pandemic. *Journal of Loss and Trauma*, 25(8), 635-642. <https://doi.org/10.1080/15325024.2020.1769300>
- Bellar, W. (2017). Private practice: Using digital diaries and interviews to understand evangelical Christians’ choice and use of religious mobile applications. *New Media & Society*, 19(1), 111-125. <https://doi.org/10.1177/1461444816649922>
- Beyers, W., Goossens, L., Vansant, I., & Moors, E. (2003). A Structural Model of Autonomy in Middle and Late Adolescence: Connectedness, Separation, Detachment, and Agency. *Journal of Youth and Adolescence*, 32, 351–365. 10. <https://doi.org/1023/A:1024922031510>

- 
- Branquinho, C., Kelly, C., Arevalo, L. C., Santos, A., & Gaspar de Matos, M. (2020). "Hey, we also have something to say": A qualitative study of Portuguese adolescents' and young people's experiences under COVID-19. *Journal of Community Psychology, 48*(8), 2740-2752. <https://doi.org/10.1002/jcop.22453>
- Bronfenbrenner, U. (1977). Toward an experimental ecology of human development. *American Psychologist, 32*(7), 513.
- Brooks, S. K., Webster, R. K., Smith, L. E., Woodland, L., Wessely, S., Greenberg, N., & Rubin, G. J. (2020). The psychological impact of quarantine and how to reduce it: rapid review of the evidence. *The lancet, 395*(10227), 912-920. [https://doi.org/10.1016/S0140-6736\(20\)30460-8](https://doi.org/10.1016/S0140-6736(20)30460-8)
- Bruner, J. (1991). The narrative construction of reality. *Critical inquiry, 18*(1), 1-21.
- Canale, N., Marino, C., Lenzi, M., Vieno, A., Griffiths, M. D., Gaboardi, M., ... & Massimo, S. (2021). How Communication Technology Fosters Individual and Social Wellbeing During the Covid-19 Pandemic: Preliminary Support For a Digital Interaction Model. *Journal of Happiness Studies, 1-19*. <https://doi.org/10.1007/s10902-021-00421-1>
- Carver, C. S. (1997). You want to measure coping but your protocol' too long: Consider the brief cope. *International Journal of Behavioral Medicine, 4*(1), 92-100. [https://doi.org/10.1207/s15327558ijbm0401\\_6](https://doi.org/10.1207/s15327558ijbm0401_6)
- Catalani, C., & Minkler, M. (2010). Photovoice: A review of the literature in health and public health. *Health education & behavior, 37*(3), 424-451. <https://doi.org/10.1177/1090198109342084>
- Cellini, N., Canale, N., Mioni, G., & Costa, S. (2020). Changes in sleep pattern, sense of time and digital media use during COVID-19 lockdown in Italy. *Journal of Sleep Research, 29*(4), e13074. <https://doi.org/10.1111/jsr.13074>
- Compare, C., Prati, G., Guarino, A., Gatti, F., Procentese, F., Fedi, A., ... & Albanesi, C. (2021). Predictors of prosocial behavior during the COVID-19 national lockdown in Italy: Testing the role of psychological sense of community and other community assets. *Community Psychology in Global Perspective, 7*(2), 22-38. <https://doi.org/10.1285/i24212113v7i2p22>
- Crespo, M., & Fernández-Lansac, V. (2016). Memory and narrative of traumatic events: A literature review. *Psychological trauma: Theory, research, practice, and policy, 8*(2), 149. <https://doi.org/10.1037/tra0000041>
- Dawson, D. L., & Golijani-Moghaddam, N. (2020). COVID-19: Psychological flexibility, coping, mental health, and wellbeing in the UK during the pandemic. *Journal of contextual behavioral science, 17*, 126-134. <https://doi.org/10.1016/j.jcbs.2020.07.010>
- De Vincenzo, C., Serio, F., Franceschi, A., Barbagallo, S., & Zamperini, A. (2022). A "Viral Epistolary" and Psychosocial Spirituality: Restoring Transcendental Meaning During COVID-19 Through a Digital Community Letter-Writing Project. *Pastoral Psychology, 71*, 153-171. <https://doi.org/10.1007/s11089-021-00991-0>
- Derr, V., & Simons, J. (2020). A review of photovoice applications in environment, sustainability, and conservation contexts: is the method maintaining its emancipatory intents?. *Environmental Education Research, 26*(3), 359-380. <https://doi.org/10.1080/13504622.2019.1693511>
- Di Fini, G., & Veglia, F. (2019). Life Themes and Attachment System in the Narrative Self-Construction: Direct and Indirect Indicators. *Frontiers in psychology, 10*, 1393. <https://doi.org/10.3389/fpsyg.2019.01393>

- 
- Di Napoli, I., Guidi, E., Arcidiacono, C., Esposito, C., Marta, E., Novara, C., Procentese, F., Guazzini, A., Agueli, B., Gonzáles Leone, F., Meringolo, P., & Marzana, D. (2021). Italian Community Psychology in the COVID-19 Pandemic: Shared Feelings and Thoughts in the Storytelling of University Students. *Frontiers Psychology, 12*, 556. <https://doi.org/10.3389/fpsyg.2021.571257>
- Dworkin, M., Akintayo, T., Calem, D., Doran, C., Guth, A., Kamami, E. M., ... & Frasso, R. (2021). Life during the pandemic: an international photo-elicitation study with medical students. *BMC medical education, 21*(1), 1-16. 10. <https://doi.org/s12909-021-02684-x>
- Everitt, B. S. (2019). *The analysis of contingency tables*. Chapman and Hall/CRC.
- Ferber, S. G., Weller, A., Maor, R., Feldman, Y., Harel-Fisch, Y., & Mikulincer, M. (2021). Perceived social support in the social distancing era: the association between circles of potential support and COVID-19 reactive psychopathology. *Anxiety, Stress, & Coping, 1-14*. <https://doi.org/10.1080/10615806.2021.1987418>
- Foster-Fishman, P., Nowell, B., Deacon, Z., Nievar, M. A., & McCann, P. (2005). Using methods that matter: The impact of reflection, dialogue, and voice. *American Journal of Community Psychology, 36*(3-4), 275-291. <https://doi.org/10.1007/s10464-005-8626-y>
- Gaboardi, M., Santinello, M., Lenzi, M., Disperati, F., Ornelas, J., & Shinn, M. (2022). Using a modified version of photovoice in a European cross-national study on homelessness. *American Journal of Community Psychology, 1-14*. <https://doi.org/10.1002/ajcp.12586>
- Gallè, F., Sabella, E. A., Ferracuti, S., De Giglio, O., Caggiano, G., Protano, C., ... & Napoli, C. (2020). Sedentary behaviors and physical activity of Italian undergraduate students during lockdown at the time of CoViD- 19 pandemic. *International journal of environmental research and public health, 17*(17), 6171. <https://doi.org/10.3390/ijerph17176171>
- Gatti, F., & Procentese, F. (2021). Local Community Experience as an Anchor Sustaining Reorientation Processes during COVID-19 Pandemic. *Sustainability, 13*(8), 4385. <https://doi.org/10.3390/su13084385>
- Gatti, F., Procentese, F., & Mitchell, R. (2021). Prospettive di Connessioni Urbane\*: a case study about using Instagram to keep in touch with urban places in Naples (Italy) during COVID-19 pandemic. In *Mindtrek 2021: Academic Mindtrek 2021* (pp. 41-48). NY: ACM. <https://doi.org/10.1145/3464327.3464346>
- Gattino, S., Rizzo, M., Gatti, F., Compare, C., Procentese, F., Guarino, A., Di Napoli, I., Barbieri, I., Fedi, A., Aresi, G., Marta, E., Marzana, D., Prati, G., Rochira, A., Tzankova, I., Albanesi, C. (2022). COVID-19 in our lives: Sense of community, sense of community responsibility, and reflexivity in present concerns and perception of the future. *Journal of Community Psychology, 50*(5), 2344-2365. <https://doi.org/10.1002/jcop.22780>
- Halligan, S. L., Michael, T., Clark, D. M., & Ehlers, A. (2003). Posttraumatic stress disorder following assault: The role of cognitive processing, trauma memory, and appraisals. *Journal of Consulting and Clinical Psychology, 71*, 419-431. <https://doi.org/10.1037/0022-006X.71.3.419>
- Istat [Istituto Nazionale di Statistica]. (2016). *Studenti e bacini universitari*. Loreto (IT): Streetlib. <https://www.istat.it/it/files/2016/11/Studenti-e-bacini-universitari.pdf>
- Jenkins, M., Hoek, J., Jenkin, G., Gendall, P., Stanley, J., Beaglehole, B., ... & Every-Palmer, S. (2021). Silver linings of the COVID-19 lockdown in New Zealand. *PLoS One, 16*(4), e0249678. <https://doi.org/10.1371/journal.pone.0249678>
- Junaedi, A., Ong, K. I. C., Rachmatullah, F., Shibanuma, A., Kiriya, J., & Jimba, M. (2022). Factors influencing physical distancing compliance among young adults during COVID-19
-

- 
- pandemic in Indonesia: A photovoice mixed methods study. *PLOS Global Public Health*, 2(1), e0000035. <https://doi.org/10.1371/journal.pgph.0000035>
- Kahu, E. R., & Picton, C. (2022). Using photo elicitation to understand first-year student experiences: Student metaphors of life, university and learning. *Active Learning in Higher Education*, 23(1), 35-47. <https://doi.org/10.1177/1469787420908384>
- Kim, J. (2016). Youth involvement in participatory action research (PAR): Challenges and barriers. *Critical Social Work*, 17(1), 38-53. <https://doi.org/10.22329/csw.v17i1.5891>
- Kuo, M. C., Chen, C. M., Wu, F. G., Chen, C. H., Yin, Z. X., & Wang, C. Y. (2020). Use of photo diary and focus group to explore needs for digital disease management program among community older adults with chronic disease. *Health & Social Care in the Community*. <https://doi.org/10.1111/hsc.13241>
- Lavanco G. & Novara C. (2021, Eds.). *Photovoice. Una metodologia inclusiva durante la pandemia da Covid-19 [Photovoice. An inclusive methodology during the Covid-19 pandemic]*. Palermo: University Press, Palermo, 1-104.
- Lischetzke, T., Schemer, L., In-Albon, T., Karbach, J., Könen, T., & Glombiewski, J. A. (2021). Coping under a COVID-19 lockdown: patterns of daily coping and individual differences in coping repertoires. *Anxiety, Stress, & Coping*, 1-19. <https://doi.org/10.1080/10615806.2021.1957848>
- MacIntyre, P. D., Gregersen, T., & Mercer, S. (2020). Language teachers' coping strategies during the Covid-19 conversion to online teaching: Correlations with stress, wellbeing and negative emotions. *System*, 94, 102352. <https://doi.org/10.1016/j.system.2020.102352>
- Marelli, S., Castelnuovo, A., Somma, A., Castronovo, V., Mombelli, S., Bottoni, D., ... & Ferini-Strambi, L. (2021). Impact of COVID-19 lockdown on sleep quality in university students and administration staff. *Journal of Neurology*, 268(1), 8-15. <https://doi.org/10.1007/s00415-020-10056-6>
- Marzana, D., Novara, C., De Piccoli, N., Cardinali, P., Migliorini, L., Di Napoli, I., ... & Procentese, F. (2021). Community dimensions and emotions in the era of COVID-19 among Italian university students. *Journal of Community & Applied Social Psychology*, 1-16. <https://doi.org/10.1002/casp.2560>
- Metcalfe, A. S. (2021). Visualizing the COVID-19 pandemic response in Canadian higher education: an extended photo essay. *Studies in Higher Education*, 46(1), 5-18. <https://doi.org/10.1080/03075079.2020.1843151>
- Mihailidis, P. (2014). A tethered generation: Exploring the role of mobile phones in the daily life of young people. *Mobile Media & Communication*, 2(1), 58-72. <https://doi.org/10.1177/2050157913505558>
- Migliorini, L., De Piccoli, N., Cardinali, P., Rollero, C., Marzana, D., Arcidiacono, C., ... & Di Napoli, I. (2021). Contextual influences on Italian university students during the COVID-19 lockdown: Emotional responses, coping strategies and resilience. *Community Psychology in Global Perspective*, 7(1), 71-87. <https://doi.org/10.1285/i24212113v7i1p71>
- Parola, A., Rossi, A., Tessitore, F., Troisi, G., & Mannarini, S. (2020). Mental health through the COVID-19 quarantine: a growth curve analysis on Italian young adults. *Frontiers in Psychology*, 11, 567484. <https://doi.org/10.3389/fpsyg.2020.567484>
- Pigaiani, Y., Zoccante, L., Zocca, A., Arzenton, A., Menegolli, M., Fadel, S., ... & Colizzi, M. (2020, December). Adolescent lifestyle behaviors, coping strategies and subjective wellbeing during the COVID-19 pandemic: an online student survey. In *Healthcare* (Vol. 8, No. 4, p. 472). <https://doi.org/10.3390/healthcare8040472>

- 
- Plutchik, R. (2001). The nature of emotions: Human emotions have deep evolutionary roots, a fact that may explain their complexity and provide tools for clinical practice. *American Scientist*, 89(4), 344-350.
- Prati, G. (2021). Mental health and its psychosocial predictors during national quarantine in Italy against the coronavirus disease 2019 (COVID-19). *Anxiety, Stress, & Coping*, 34(2), 145-156. <https://doi.org/10.1080/10615806.2020.1861253>
- Procentese, F., Capone, V., Caso, D., Donizzetti, A. R., & Gatti, F. (2020). Academic community in the face of emergency situations: sense of responsible togetherness and sense of belonging as protective factors against academic stress during COVID-19 outbreak. *Sustainability*, 12(22), 9718. <https://doi.org/10.3390/su12229718>
- Procentese, F., Gatti, F., & Ceglie, E. (2021). Sensemaking processes during the first months of COVID-19 pandemic: Using diaries to deepen how Italian youths experienced lockdown measures. *International Journal of Environmental Research and Public Health*, 18(23), 12569. <https://doi.org/10.3390/ijerph182312569>
- Quintiliani, L., Sisto, A., Vicinanza, F., Curcio, G., & Tambone, V. (2021). Resilience and psychological impact on Italian university students during COVID-19 pandemic. Distance learning and health. *Psychology, Health & Medicine*, 1-12. <https://doi.org/10.1080/13548506.2021.1891266>
- Racine, S., Miller, A., Mehak, A., & Trolio, V. (2021). Examining risk and protective factors for psychological health during the COVID-19 pandemic. *Anxiety, Stress, & Coping*, 1-17. <https://doi.org/10.1080/10615806.2021.1958789>
- Rossi, R., Socci, V., Talevi, D., Mensi, S., Ntoli, C., Pacitti, F., ... & Di Lorenzo, G. (2020). COVID-19 pandemic and lockdown measures impact on mental health among the general population in Italy. *Frontiers in Psychiatry*, 11, 790. <https://doi.org/10.3389/fpsy.2020.00790>
- Santinello, M., Gaboardi, M., Lenzi, M., Papale, R., & Turetta, G. (2020). Online Photovoice Workshop during COVID-19 Lockdown: New Experience for Professors and Students. *The Community Psychologist*, 53(3), 11-14.
- Shankar, S., O'Brien, H. L., & Absar, R. (2018). Rhythms of everyday life in mobile information seeking: Reflections on a photo-diary study. *Library Trends*, 66(4), 535-567. <https://doi.org/10.1353/lib.2018.0016>
- Siegel, D. J. (2015). *The developing mind: How relationships and the brain interact to shape who we are*. Guilford Publications.
- Smorti, A. N. (2007). *Cultura, memorie, formazione del Sé*. Giunti.
- Solano, L. (Eds.). (2007). *Scrivere per pensare. La trascrizione dell'esperienza tra promozione della salute e ricerca*. Franco Angeli.
- Staiano, A. E., Baker, C. M., & Calvert, S. L. (2012). Dietary digital diaries: documenting adolescents' obesogenic environment. *Environment and Behavior*, 44(5), 695-712. <https://doi.org/10.1177/0013916511403623>
- Tausczik, Y. R., & Pennebaker, J. W. (2010). The psychological meaning of words: LIWC and computerized text analysis methods. *Journal of Language and Social Psychology*, 29(1), 24-54. <https://doi.org/10.1177/0261927X09351676>
- Tedeschi, R. G., & Calhoun, L. G. (2004). Posttraumatic growth: Conceptual foundations and empirical evidence. *Psychological Inquiry*, 15, 1-18. [https://doi.org/10.1207/s15327965pli1501\\_01](https://doi.org/10.1207/s15327965pli1501_01)
-

- 
- Ulset, V. S., & von Soest, T. (2022). Posttraumatic growth during the COVID-19 lockdown: A large-scale population-based study among Norwegian adolescents. *Journal of Traumatic Stress, 35*, 941-954. <https://doi.org/10.1002/jts.22801>
- Van de Velde, S., Buffel, V., Bracke, P., Van Hal, G., Somogyi, N. M., Willems, B., ... & C19 ISWS consortium#. (2021). The COVID-19 international student well-being study. *Scandinavian Journal of Public Health, 49*(1), 114-122. <https://doi.org/10.1177/1403494820981186>
- Van der Kolk, B. (2014). *The body keeps the score: Mind, brain and body in the transformation of trauma*. Penguin UK.
- Varma, D. S., Young, M. E., Kreider, C. M., Williams, K., Vaddiparti, K., Parisi, C., & Semeah, L. M. (2021). Practical considerations in qualitative health research during the COVID-19 pandemic. *International Journal of Qualitative Methods, 20*. <https://doi.org/10.1177/16094069211043755>
- Veglia, F., & Di Fini, G. (2017). Life themes and interpersonal motivational systems in the narrative self-construction. *Frontiers in Psychology, 8*, 1897. <https://doi.org/10.3389/fpsyg.2017.01897>
- Vincent, A., Mamzer, H., Ng, Z., & Farkas, K. J. (2020). People and their pets in the times of the COVID-19 pandemic. *Society Register, 4*(3), 111-128. <https://doi.org/10.14746/sr.2020.4.3.06>
- Volpe, C. R. (2019). Digital diaries: new uses of PhotoVoice in participatory research with young people. *Children's Geographies, 17*(3), 361-370. <https://doi.org/10.1080/14733285.2018.1543852>
- Wang, C., & Burris, M. A. (1997). Photovoice: Concept, methodology, and use for participatory needs assessment. *Health Education & Behavior, 24*(3), 369-387. <https://doi.org/10.1177/109019819702400309>
- Wang, C., Pan, R., Wan, X., Tan, Y., Xu, L., Ho, C. S., & Ho, R. C. (2020). Immediate psychological responses and associated factors during the initial stage of the 2019 coronavirus disease (COVID-19) epidemic among the general population in China. *International Journal of Environmental Research and Public Health, 17*(5), 1729. <https://doi.org/10.3390/ijerph17051729>
- Xue, J., Chen, J., Chen, C., Zheng, C., Li, S., & Zhu, T. (2020). Public discourse and sentiment during the COVID 19 pandemic: Using Latent Dirichlet Allocation for topic modeling on Twitter. *PloS one, 15*(9), e0239441. <https://doi.org/10.1371/journal.pone.0239441>