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Fear of COVID-19 and Future Orientation: Different Profiles in Dealing With the Pandemic and Associations With Loneliness and Posttraumatic Growth

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Psychological Trauma: Theory, Research, Practice, and Policy

Fear of COVID-19 and future orientation: different profiles in dealing with the pandemic and associations with loneliness and post-traumatic growth

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Abstract:	Objective: This study aimed to examine the profiles of reaction to the COVID-19 pandemic based on the combination of fear and future orientation, as well as their socio-demographic, situational, and relational predictors. We also compared post-traumatic growth between the profiles. Method: A sample of 640 Italian participants completed the Multidimensional Assessment of COVID-19-Related Fears (MAC-RF), the Future Orientation Scale (FOS), the UCLA Loneliness Scale - Version 3, and the Post-traumatic Growth Inventory (PTGI). Results: Latent profile analysis indicated a four-class solution as the best-fitting model. The first profile ("Detached") comprised 9.9% of the sample and was characterized by both low fear and future orientation. The second profile ("Hopeful") concerned 49.9% of the sample and it featured low fear and high future orientation. The third profile ("Constructively preoccupied") involved 35.5% of the sample and was distinguished by high fear and high future orientation. The fourth profile ("Fearful") included 4.6% of the sample and was marked by high fear and low future orientation. Multinomial logistic regressions indicated that the female gender was more likely to be associated with the "Constructively preoccupied" profile, while older age was more likely to be associated with the "Hopeful" one. Higher perceived loneliness was associated with all profiles except the "Hopeful". Results of comparisons showed substantial differences in post-traumatic growth between the profiles. The "Constructively preoccupied" profile showed the greatest post-traumatic growth. Conclusions: Overall, these results point out the various profile of reaction to the pandemic and that adopting a person-oriented approach could enhance their

grasp.



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Prof. Dr. Diane Elmore Borbon
Associate Editor
Psychological Trauma: Theory, Research, Practice, and Policy

Manuscript Submission: TRA-2021-2898

"Fear of COVID-19 and future orientation: different profiles in dealing with the pandemic and associations with loneliness and post-traumatic growth"

by Lenzo et al.

Dear Prof. Diane Elmore Borbon:

I am pleased to submit the revised version of the article entitled "Fear of COVID-19 and future orientation: different profiles in dealing with the pandemic and associations with loneliness and post-traumatic growth" for potential publication in the *Psychological Trauma: Theory, Research, Practice, and Policy* journal.

We would like to thank you for your valuable considerations and precious support. We appreciate the time and effort that you and the reviewers have dedicated to providing your valuable feedback on our manuscript. We are grateful to the reviewers for their insightful comments on the paper. We have been able to incorporate changes to reflect the reviewers' suggestions and we substantially revised the manuscript. We have highlighted the changes within the manuscript using track changes.

We hope that the manuscript would be considered suitable for publication in the *Psychological Trauma: Theory, Research, Practice, and Policy* journal, as we believe that it might be of significant interest to the readers of the journal.

We look forward to hearing from you in due time regarding our submission and to respond to any further questions and comments you may have.

March 08, 2022

Sincerely,

Vittorio Lenzo, PhD

Response to reviewers:

Manuscript Number: TRA-2021-2898

Title: Fear of COVID-19 and future orientation: different profiles in dealing with the pandemic and associations with loneliness and post-traumatic growth

Journal: *Psychological Trauma: Theory, Research, Practice, and Policy*

Reviewers' comments:

Comments from Reviewer #1:

We thank the Reviewer for the careful reading of the manuscript and constructive remarks about the manuscript. We have sagely taken the comments on board to improve the manuscript. Please see above a detailed point-by-point response to his/her comments.

[This is an interesting study and well conducted. I have one comment. The authors focused on psychosocial factors but did not explore the impact of physical symptoms on post traumatic stress and future orientation. Under the limitation, please state physical symptoms not explored in this study and discuss the findings of the following study:

A chain mediation model on COVID-19 symptoms and mental health outcomes in Americans, Asians and Europeans. *Sci Rep* 11, 6481 (2021). <https://doi.org/10.1038/s41598-021-85943-7>].

Reply: Thank you for introducing us to this intriguing study. We have found this work very relevant for understanding the underlying mechanisms leading from physical symptoms resembling COVID-19 infection to depression, anxiety, and stress, via the need for health information and the psychological impact of the ongoing pandemic. In the revised version of the manuscript, therefore, we have carefully considered the issue of physical symptoms and their impact on mental health outcomes. In this vein, we have pointed out in the limitations paragraph the need for considering the physical symptoms resembling COVID-19 infection. We have also found very relevant comparisons of the mental health outcomes in the general population of 8 countries belonging to America, Asia, and Europe. In this vein, since we are conducting a comparative study on the impact of the pandemic in three countries (Italy, the USA, and Brazil), we will cite this study when we discuss our results.

Comments from Reviewer #2:

[This study identified four profiles of reaction based on fear and future orientation referring to the COVID-19 pandemic using a person-oriented approach. It also examined the differences of demographic information and posttraumatic growth between the profiles. The design and analyses are proper and clear. However, some issues might need further clarification.]

We thank the Reviewer for constructive remarks and important considerations about the manuscript. We have sagely taken the comments on board to improve the manuscript. Please see above a detailed point-by-point response to all comments.

[1. There are about 50 lines in one paragraph (pp. 3-4), and it will be easier to read if the authors can reorganise the structure a bit.]

Reply: Many thanks for the opportunity to improve the clarity of the text. We agree with the Reviewer that the paragraph named "1.1. Fear and Future Orientation: Two Sides of Dealing with the Pandemic" was too long. In the revised version of the manuscript, therefore, we have reorganized this part into two paragraphs. Specifically, the new paragraph is called "1.2. Toward a more complex understanding: The profiles of reaction to the pandemic". While paragraph 1.1. focuses on the importance of fear and future orientation for understanding psychological reaction to the pandemic, 1.2. contend the opportunity of combining these central constructs through the profiles of reaction, as well as a brief description of the related socio-

demographic, situational, and relational variables. In their present form, the paragraph 1.1. and 1.2. are composed of 27 and 24 lines, respectively.

[2. It will be helpful to illustrate how the hypotheses are developed (pp. 7).]

Reply: Many thanks for the opportunity to clarify this point in the manuscript. While we developed this study, we noticed that most of the research focused on the prevalence of psychological distress and the role of several possible predictors, often with considerable heterogeneity between subjects. Conversely, our interest was to identify clusters of individuals tantamount to profiles of reaction, and thereby, we adopt a latent profile analysis. Because fear and future orientation represent two fundamental aspects of reaction related to the pandemic, we choose them as indicators of these different profiles. Moreover, together with exploring the predictors of the profiles of reaction, our interest has turned to understanding the psychological positive changes of individuals facing the pandemic and, therefore, not only the impact in terms of reported symptoms. In the revised version of the manuscript, we have added more information in the Introduction section and especially, in the "1.4. The Present Study" paragraph to make more clearer how the hypotheses are developed.

[3. It seems that greater posttraumatic growth is introduced as an index of better mental health (i.e., lower anxiety and depression) and wellbeing in your study. How do you understand posttraumatic growth and its association with wellbeing and mental health?]

Reply: Many thanks for your question on the relationship between posttraumatic growth and mental health because allow us to improve the manuscript and grasp the results we obtained. Our understanding is based on the classical conception of Tedeschi and Calhoun on posttraumatic growth (for instance, 2004). They argued that research in psychology has mainly focused on the negative consequences of trauma such as psychological and physical problems. According to Tedeschi and Calhoun posttraumatic growth may coexist with emotional distressing or other consequences of trauma, including depression, insofar they are relatively separate constructs, even though modest correlation coefficients may be present. In this light, we first moved to identify the profiles and then understand the differences for posttraumatic growth among them. Our interest was to understand how an indicator characterizing profiles such as fear (strongly related with other negative consequences of the pandemic as, for example, anxiety) coexists with posttraumatic growth representing, on the contrary, a positive outcome of the struggle with the distress of the pandemic. Therefore, in the revised version of the manuscript, we have briefly added this question in both Introduction and Discussion sections.

[4. In the Introduction (pp. 5), you cited, "It is also worthy of note that individuals aged 60 and over show a heightened level of fear during the pandemic (Şimşir et al., 2021)". However, your findings (Table 1) suggested that older people reported less Covid fear and loneliness. In your discussion (pp 17), you wrote that "This finding seems to be coherent with previous evidence highlighting that younger age was associated with worse mental health during the COVID-19 pandemic (Ahmed et al., 2020; Hwang et al., 2020; Lenzo et al., 2020; Mazza et al., 2020)." How do you understand the inconsistency between your finding and Şimşir et al.'s?]

Reply: Many thanks for noting this inconsistency in the Introduction section. We have carefully reviewed the articles cited and consequently revised the text. Indeed, the meta-analysis of Şimşir and colleagues (2021) is focused on the relationship between fear of COVID-19 and a host of mental health problems comprising anxiety, stress, depression, distress, post-traumatic stress, and sleep problems among the general population, but not on the predictors of fear such as age or gender. So far, on the other hand, virtually most of the studies have found that younger age represents a risk factor for the fear of COVID-19 (e.g., Ahmed et al., 2020; Hwang et al., 2020; Lenzo et al., 2020; Mazza et al., 2020). Also, the scoping review of Quadros and colleagues (2021) seems to confirm these findings. Based on these considerations, we have modified both the Introduction and the Discussion sections in the revised version of the manuscript. Thank you again for this precious indication.

[5. More in-depth interpretations of findings referring to the four profiles, especially "Detached" and "Fearful" are required (pp.18). You mentioned, "The low future orientation, together with a poor post-traumatic growth

consequent to the COVID-19 pandemic requires further attention from a prevention perspective." (pp.18), it seems that participants in profile "Detached" also have lower future orientation and even "poorer" posttraumatic growth. Does that mean "Detached" people also require further precaution?]

Reply: Many thanks to the Reviewer for this precious indication on the interpretations of findings regarding the profiles of reaction. We completely agree with the Reviewer that the "Detached" and the "Fearful" profiles require further precaution. We were surprised to see the results using the person-oriented approach. For example, if we had considered simply fear of COVID-19, we would have deemed the "Detached" profile as adaptive. Indeed, the individuals belonging to this profile showed also a low future orientation. Thus, in the revised version of the manuscript, we have highlighted this issue and we have deepened the related part of the discussion. An analogous view concerns the "Constructively Preoccupied" profile that showed the highest post-traumatic growth, even though is characterized by high levels of fear. Interestingly, the female gender is associated with this profile and this may shed light on several studies reporting that females tend to report higher levels of distress. Therefore, we grasped a more complex picture of the psychological impact of the ongoing pandemic, including the role of the female gender. Moreover, we have discussed more in-depth the implications of the "Fearful" profile. The low future orientation, along with the high fear, has led us to believe that the individual belonging to this profile of reaction needs specific attention by the specialists within the field. Lastly, we have modified the Result paragraph focusing on the post-traumatic growth differences among the profiles of reaction to improve the readability and clarity of this section.

[6. What are the implications of your study?]

Reply: Many thanks for your hint on the practical implications of our results. Of course, we believe that the findings we obtained may be useful for prevention intervention insofar allow us to know profiles of reaction to the ongoing pandemic. One practical implication, for example, concerns the early identification of high-risk profiles of reaction for preventing adverse mental health outcomes among the general population. In the revised version of the manuscript, we have described the clinical implications of our findings at the end of the discussion section.

[7. Some minor editing work needs to be done according to APA 7 format.]

Reply: Thank you for your comment on the editing work. We have carefully checked the revised version of the manuscript to comply with the APA 7 format.

Fear of COVID-19 and future orientation: different profiles in dealing with the pandemic and associations with loneliness and post-traumatic growth

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FEAR OF COVID-19 AND FUTURE ORIENTATION

Fear of COVID-19 and future orientation: different profiles in dealing with the pandemic and associations with loneliness and post-traumatic growth**Abstract**

Objective: This study aimed to examine the profiles of reaction to the COVID-19 pandemic based on the combination of fear and future orientation, as well as their socio-demographic, situational, and relational predictors. We also compared post-traumatic growth between the profiles. **Method:** A sample of 640 Italian participants completed the Multidimensional Assessment of COVID-19-Related Fears (MAC-RF), the Future Orientation Scale (FOS), the UCLA Loneliness Scale - Version 3, and the Post-traumatic Growth Inventory (PTGI). **Results:** Latent profile analysis indicated a four-class solution as the best-fitting model. The first profile (“Detached”) comprised 9.9% of the sample and was characterized by both low fear and future orientation. The second profile (“Hopeful”) concerned 49.9% of the sample and it featured low fear and high future orientation. The third profile (“Constructively preoccupied”) involved 35.5% of the sample and was distinguished by high fear and high future orientation. The fourth profile (“Fearful”) included 4.6% of the sample and was marked by high fear and low future orientation. Multinomial logistic regressions indicated that the female gender was more likely to be associated with the “Constructively preoccupied” profile, while older age was more likely to be associated with the “Hopeful” one. Higher perceived loneliness was associated with all profiles except the “Hopeful”. Results of comparisons showed substantial differences in post-traumatic growth between the profiles. The “Constructively preoccupied” profile showed the greatest post-traumatic growth. **Conclusions:** Overall, these results point out the various profile of reaction to the pandemic and that adopting a person-oriented approach could enhance their grasp.

Keywords: clinical psychology, coronavirus disease 2019, fear, future orientation, post-traumatic growth, latent profile analysis

Clinical impact statement

The use of a person-oriented approach focusing on the existence of patterns among the individuals, rather than mean and correlations characterizing the variable-oriented research could be worthwhile for a more complex picture of the impact of the pandemic. In this vein, this study points out different ways of reacting to the COVID-19 pandemic resulting from the combination of fear and future orientation. Moreover, the perceived loneliness of individuals should be considered by clinicians because it is associated with dysfunctional profiles of reaction. The profile named “constructively preoccupied” characterized by both high fear and high future orientation has greater post-traumatic growth.

1. Introduction

The COVID-19 pandemic has given to researchers the opportunity to observe the consequences of an adverse experience among the worldwide population. Several studies have demonstrated the psychological impact during the most critical period characterized by restrictive measures aiming to decrease the quick spread of infected (Lenzo et al., 2020; Mazza et al., 2020; Moccia et al., 2020; Schimmenti et al., 2020b). Most of this research has relied principally on the so-called variable-oriented research (Bergman & Wångby, 2014), but interestingly enough, some of these studies have found significant relationships between a wide array of symptoms and protective factors such as resilience (e.g., Lenzo et al., 2020). Nonetheless, there is still a lack of studies exploring how these different variables are linked to profiles of reaction to the ongoing pandemic. Because latent profile analysis allows us a simpler representation of individual characteristics determining different configurations, the emerging profiles could be clinically significant and worthwhile.

In the current study, we sought to investigate common profiles resulting from the combination of the fear of COVID-19 and future orientation and to explore their predictors and correlates. To understand the nature of these unique latent profiles and how they are linked to possible positive psychological changes, we also sought to examine differences among the profiles for post-traumatic growth.

1.1. Fear and Future Orientation: Two Sides of Dealing with the Pandemic

Fear may be described as a nasty emotion that is evoked in response to a threat perceived by the subject (Scalabrini et al., 2020). The COVID-19 pandemic can lead to a host of threats with a strong psychological impact on the population. The fear of being infected or infecting other people, together with a heavy limitation of social relations, represent common examples of this unpleasant emotion (Musetti et al., 2021). From a clinical perspective, prolonged and severe experiences of fear may bolster the onset of mental as well as physical diseases (McEwen, 2004). As such, a finer

understanding of the fear that is elicited during the current pandemic and how is associated with other individual characteristics can help to minimize its impact. In this vein, Schimmenti and colleagues (2020a) have contended that the experience of fear outlining the COVID-19 pandemic can be clustered into four interdependent domains. Specifically, the authors described the first domain of fear as referred to the body and its signals. The second domain concerns interpersonal relationships, while the third regards the cognitive aspect of mastery of the circumstances. Lastly, the fourth domain of fear considers the behavioral outcomes in the course of the pandemic. Given the pervasiveness of the fear of COVID-19 and the role of personality and individual differences, it is not surprising that other psychological aspects can be associated. Of note, the pandemic has brought uncertainty in everyday life. Indeed, the rapid changes in the course of the pandemic make it difficult to make forecasts. Researchers have referred to this issue as “future orientation”. This construct entails a positive expectation toward the future and strategies to get goals (Hirsch et al., 2006) and it plays a significant role in the individual well-being. For example, in a study involving a large sample of children diagnosed with HIV/AIDS, Zhang (2009) found that mediated the relationship between traumatic experiences and measures of mental health, such as depression. Furthermore, a study found that positive future orientation is related to less suicidal ideation and attempts in patients with major depression (Hirsch et al., 2006). Another study on primary care patients found that positive future orientation fosters mental and physical energy which, successively, increases mental and physical health (Hirsch et al., 2015). A common point in these studies is that they involved a clinical sample, even though research on healthy subjects has achieved analogous results (Chang et al., 2017).

1.2. Toward a more complex understanding: The profiles of reaction to the pandemic

Despite that fear and future orientation are usually recognized as crucial for a broad range of mental health problems stemming from the COVID-19 pandemic, there is still a lack of studies that have investigated the mixture. Indeed, these variables can combine to create unique patterns of

reaction to the ongoing pandemic. It is also possible that the combination of these variables may change depending on socio-demographic, situational, and relational variables. For what regarding socio-demographic characteristics, recent studies have reported gender differences, with females showing higher scores of the fear of COVID-19 than males (Abad et al., 2020; Bitan et al., 2020; Schimmenti et al., 2020b). In contrast, the shortage of research on future orientation stands out. To date, research has mainly focused on optimism, despite the fact that future orientation represents a wider construct (Hirsch et al., 2006). Overall, these studies have found that men are more optimistic than women (Jacobsen et al., 2014; Bharti & Rangnekar, 2018; Puskar et al., 2010). It is also worthy of note that younger individuals show higher levels of fear of COVID-19 (Quadros et al., 2021). Furthermore, the female gender, being in quarantine or in suspicion of being infected, and pre-existing mental health problems, are related to an increased risk of fear. Contrary to the findings obtained for the fear of COVID-19, research on the relationship between age and future orientation has produced contradictory results, when the construct was operationalized as the individual ability to design the future (Steinberg et al., 2009). Whatever the cause, our perspective on the future has been strongly influenced by the ongoing pandemic and, thus, a closer understanding of this construct and its relationships with individual profiles of reaction is needed. Empirical evidence also highlights that future orientation interacts with loneliness in increasing suicidal risk (Chang et al., 2017). This finding is particularly significant given that researchers have pointed out a dramatic augment of the perceived loneliness caused by the COVID-19 pandemic (Dahlberg, 2021; Hwang et al., 2020; Killgore et al., 2020; Trad et al., 2020).

1.3. Post-Traumatic Growth: What the COVID-19 pandemic Leaves Behind

Many studies have shown that a lifespan history of trauma exposure is associated with an increased risk of developing a wide array of mental health disorders (Alisic et al., 2014; Brown et al., 2014; Green et al., 2010; Kessler et al., 2010). When considering only the negative effects of traumatic experiences, this may prove to be a shortsighted perspective. To account for this problem,

a growing number of studies have focused attention on the individuals that perceived some benefits from the trauma exposure (Jayawickreme et al., 2020). Specifically, Tedeschi and Calhoun (1995) introduced the term “post-traumatic growth” to describe the psychological positive changes of individuals struggling with traumatic experiences. Although one may consider post-traumatic growth as an indicator of better mental health, it represents a separate construct on the ground that positive and negative effects of traumatic experiences often coexist (Tedeschi & Calhoun, 1996, 2004). Contrary to what one may expect, moderate to high post-traumatic growth among individuals who experienced trauma is very common with a prevalence rate of 52.58 percent (Wu et al., 2019). Also, post-traumatic growth is moderately correlated with social support, spirituality, and optimism (Prati & Pierantoni, 2009) and it has an adaptive significance in both clinical and healthy subjects (Barskova & Oesterreich, 2009; Prati & Pietrantonio, 2013; Tedeschi & Calhoun, 1996). Notable, there is a slight gender difference with females reporting a stronger post-traumatic growth than men after trauma (Vishnevsky et al., 2010). The COVID-19 pandemic can be considered a traumatic stressor increasing the risk of Post-traumatic Stress Disorder or change for the worse a pre-existing mental disorder (Bridgland et al., 2021). While numerous studies have explored the prevalence of traumatic stress symptoms as a consequence of the ongoing pandemic (Xiong et al., 2020), scant attention has been directed to post-traumatic growth and its role in mitigating the psychological impact among the population (e.g., Vazquez et al., 2021).

1.4. The Present Study

This study had the general purpose to explore and understand the reactions of an adult sample to the ongoing pandemic regarding their levels of fear and future orientation. To do so, we adopted a person-oriented approach, which focuses on the existence of patterns resulting from the unique combination of these two variables, rather than mean values and correlations, as is usually done in variable-oriented research (Bergman & Wångby, 2014). Indeed, in this research field, disentangling the psychological impact of the COVID-19 pandemic among the general population

might be not straightforward when marked heterogeneity is present in scores on the variables of interest. Accordingly, a person-oriented approach allowed us to detect different ways of reacting to the ongoing pandemic and then to explore possible predictors and correlates of each.

This general purpose was addressed through three specific aims. First, we aimed to identify profiles based on different combinations of fear and future orientation. As this was an exploratory study, we did not advance specific hypotheses. However, fear and future orientation are essential in understanding how one reacts to the COVID-19 pandemic, and thereby, it was reasonable to expect that we would find all four possible combinations between the two indicators: one profile with low fear and low future orientation, another with low fear and high future orientation, a third high in fear but low in future orientation and, lastly, a group with high levels of both variables. As one way to better understand the psychological impact of the ongoing pandemic, we have also turned attention to the percentage of participants that belong to each profile. Secondly, we aimed to understand which individuals were more likely to belong to each of the emerging profiles, by exploring possible predictors of profile membership. In particular, we considered variables pertaining to three domains: *socio-demographic*, i.e. gender and age, *situational*, i.e. levels of exposure to the virus and occupational changes due to the pandemic, and *relational*, i.e. quantity of online and face-to-face relationships and perceived loneliness. We hypothesized that these individual variables would significantly impinge upon the member profiles. Lastly, we aimed to deepen the understanding of each profile's potential for well-being by exploring the differences among them on five dimensions of post-traumatic growth. We hypothesized that individuals showing low fear and high future orientation would markedly have greater post-traumatic growth.

Method

Participants and procedure

This study is part of a larger and multicenter research project named “Effects of the second wave COVID-19 on general population: sleep quality and hyperconnectivity.” Six hundred and

forty (640) subjects participated in this study through an online survey system without any form of remuneration. Participants were recruited during the second wave of the pandemic and, more specifically, between 18 December 2020 and 18 January 2021. Participants who declared pre-existing mental health disorders or taking psychotropic drugs were excluded. All participants completed the survey anonymously and gave informed consent electronically before participating. Privacy of the participants was guaranteed in accordance with the European Union General Data Protection Regulation 2016/679. This study was conducted in accordance with the 1964 Declaration of Helsinki and its later amendments. The study was approved by the Research Ethics Committee for Psychological Research of the University of Messina, Italy (n. 17758). Participants ranged in age from 18 to 65 ($M = 33.41$; $SD = 12.70$) and 78.8% ($n = 504$) were female. Eight percent of the sample lost their jobs because of the COVID-19 pandemic, while the same percentage changed job. Among participants claiming to work, most are students or student workers (46.1%). Over the last three months, 5.2% of the participants had a COVID-19 infection and 17% were in mandatory quarantine. Lastly, 47.7% declared that at least an acquaintance or loved one had been infected in the last 3 months, whereas 9.5% had a loved one who had died for COVID-19.

Measures

The participants completed a questionnaire including single-item questions on socio-demographic and situational variables and the quantity of online and face-to-face relationships. Regarding socio-demographic variables, participants were asked to indicate their gender and age. As for situational variables, they were asked to answer “Yes” or “No” to questions pertaining their exposure to the virus (personal infection, personal experience of preventive isolation, significant other’s infection, significant other’s demise due to infection), and occupational changes due to the pandemic (loss of occupation and change of occupation). For the relational domain, participants were asked to indicate whether they had increased, maintained, or decreased the quantity of online

and face-to-face relationships. Levels of fear, future orientation, loneliness, and post-traumatic growth were instead assessed with validated scales.

The fear of COVID-19

The fear of COVID-19 was assessed by the Italian version of the Multidimensional Assessment of COVID-19-Related Fears (MAC-RF; Schimmenti et al., 2020b). The MAC-RF is an 8-item self-report instrument intended to measure clinically relevant facets of fears during the COVID-19 pandemic. Based on Schimmenti and colleagues' (2020a) theoretical model, experiences of fear comprise bodily, relational, cognitive, and behavioral domains. The items are rated on a 5-point Likert scale from 0 (very unlike me) to 4 (very like me). A total score of the MAC-RF is possible to calculate, with high scores implying higher COVID-19 related fears. In this study, an excellent degree of reliability was detected, with a Cronbach's α of 0.80.

Future Orientation

Future orientation was measured using the Future Orientation Scale (FOS; Hirsch et al., 2006). The FOS is a 6-item self-report instrument designed to evaluate the person's belief that the future can be modified, even when living stressful circumstances or negative events. The items are rated on a 5-point Likert scale ranging from 1 (extremely unimportant) to 6 (extremely important). A total score can be computed, with high scores denoting high future orientation. The degree of reliability for this sample was excellent, with a Cronbach's α of 0.82.

Loneliness

Loneliness was evaluated with the UCLA Loneliness Scale - Version 3 (Russell, 1996). The UCLA Loneliness Scale is a 20-item self-report instrument assessing loneliness, which is experienced when an individual feels a mismatch between the actual and desired interpersonal relationships. A total score reflecting a unidimensional/global measure of loneliness can be

computed. The items are rated on a 4-point Likert scale ranging from 1 (never) to 4 (always). A global measure of loneliness, corresponding to the total score, can be obtained, with higher scores indicating greater loneliness. The degree of reliability in the present sample was excellent, with a Cronbach's α of .92.

Post-traumatic growth

Post-traumatic growth was assessed by the Post-traumatic Growth Inventory (PTGI; Tedeschi & Calhoun, 1996; Prati & Pietrantoni, 2013). The PTGI is a 21-item self-report instrument measuring positive responses after traumatic experiences. Each item corresponds to a statement referring to a possible change following the trauma. The items are rated on a 6-point Likert scale ranging from 0 (I did not experience this change as a result of my crisis) to 5 (I experienced this change to a very great degree as a result of my crisis). The questionnaire comprises the following five subscales (the Cronbach's alpha scores obtained from this sample are reported in parentheses): Relating to Others ($\alpha = .92$), which measures a strengthened sensibility to other persons and efforts aiming to improve relationships; New Possibilities ($\alpha = .88$), which measures the perception of developing new interests, a new path for life, and be able to change issues which need changing; Personal Strength ($\alpha = .88$), which measures the individual recognition of holding self-reliance and to be able to handle troubles; Spiritual Change ($\alpha = .77$), which measures an increased understanding of spiritual topics and an enhanced religious faith; and Appreciation of Life ($\alpha = .79$), which measures the increased appreciation for the life, together with a change in priorities about what is important. Although a PTGI total score can be computed, for the aims of this study we only used the five factors described above.

Data Analyses

Prior to conducting the main person-oriented analyses to reach our aims, we conducted preliminary analyses to assess the normal distribution of our data and the general associations

between variables from a variable-oriented perspective using the SPSS software, version 24. We computed means and correlations of our continuous variables and conducted a series of analyses of variance (ANOVA) to assess associations between categorical variables (gender, exposure to the virus, occupational changes, quantity of online and face-to-face relationships) and fear, future orientation, post-traumatic growth.

To reach the first aim, a Latent Profile Analysis (LPA) was conducted, using the Mplus software, version 8 (Muthén & Muthén, 2009). The combination of Covid-related fear and future orientation was used to identify different profiles among the sample. As is common practice in LPA, to identify the solution with the best-fitting number of profiles we started by testing a two-class model and then increased the number of classes until the addition of classes no longer improved the model's fit indices and interpretability. As fit indices, we used the sample size adjusted Bayesian Information Criterion (aBIC), the Vuong-Lo-Mendell-Rubin Likelihood Ratio Test (VLMR-LRT), and the Bootstrapped Likelihood Ratio Test (BLRT) (Nylund et al., 2007). In the comparison of models, we looked for lower adjusted BIC values, as they indicate a better fit, and significant likelihood ratio tests (VLM-LRT and BLRT), as they indicate that the addition of a class improves the fit. When considering model fit, we also checked entropy values and average posterior probabilities, which should both be higher than .70 to indicate, respectively, sufficient classification accuracy and class separation (Jung & Wickrama, 2008; Nylund & Choi, 2018).

For the second and third aims, we adopted the 3-step approach provided by the Mplus software to study profile predictors and distal outcomes while controlling measurement errors in the identification of profiles (Asparouhov & Muthén, 2014). In particular, in relation to the second aim the 3-step approach allowed us to conduct a series of multinomial logistic regressions considering socio-demographic (gender and age), situational (exposure to the virus variables and occupational change variables) and relational (quantity of online and face-to-face relationships and perceived loneliness) variables as predictors of the likelihood to belong to a certain profile as compared with the others. In relation to the third aim, the 3-step approach was instead used to conduct an equality

test of means (t-test) for analyzing group differences in all five dimensions of post-traumatic growth.

Results

Preliminary Analyses

Skewness and kurtosis values mostly included between -2 and +2 (with the exception of two items, one on post-traumatic growth (*item 18. I have a stronger religious faith*) and one on loneliness (*item 1. How often do you feel that you are "in tune" with the people around you?*) indicating a data distribution approximating normality (Gravetter et al., 2020). Descriptive statistics and intercorrelations between continuous variables can be found in Table 1. Fear was positively correlated with loneliness and most post-traumatic growth dimensions, while future orientation was negatively correlated with loneliness and positively correlated with all post-traumatic growth dimensions. Dimensions of post-traumatic growth were positively and strongly correlated with each other. Results from the analyses of variance (ANOVA) are reported in Table 2. In the Table, results related to exposure to the virus and quantity of online and face-to-face relationships variables are not reported for synthesis, as there was no significant association of these variables with fear, future orientation, and post-traumatic growth dimensions, with the exception of a higher fear for participants who experienced a significant other's infection ($F(1,638) = 5.24; p = .022, \eta^2 = .01$) and higher *PTGI Relating to others* for participants who increased rather than maintained their online relationships ($F(1,637) = 3.98; p = .020, \eta^2 = .01$). Gender and occupational change variables reported several significant associations, all with small effect sizes.

Profile Analysis

Fit indices for the tested LPA models can be found in Table 3. The adjusted BIC value consistently decreased, indicating that the addition of classes provided a better fit of the model. Together, the likelihood ratio tests (VLM-LRT and BLRT) seemed to indicate the four-classes solution the best-fitting model: they were both significant at $p < .005$ for this solution, while they

were not significant for the three and five-classes models. The four-classes model also reported an entropy value indicating sufficient classification accuracy and the best loglikelihood value was replicated in several final stage solutions, indicating this as a good solution. Overall, the simultaneous consideration of all fit indices indicated the four-classes solution as the best-fitting model. Average posterior probabilities for each class in this model were all higher than .70, indicating that classes were well separated. Lastly, model interpretability also supported the choice of the four-classes model, as the emerging profiles clearly depicted different reactions to the Covid pandemic, as can be seen in Figure 1.

A numerically small first profile (clustering 7.8 % of our sample) comprised individuals who reported low levels of both fear and future orientation, which for synthesis we labeled *Detached*, while a second profile clustering a larger part of our sample (52.5 %) included individuals reporting similarly low levels of fear combined with the highest levels of future orientation, labeled *Hopeful*. The other two profiles both included participants reporting high levels of fear. For the third profile (35.9 % of our sample), which we named *Constructively Preoccupied*, fear was accompanied by high levels of future orientation, while for the fourth profile (4.4 % of our sample), labeled *Fearful*, it was accompanied by low levels of future orientation.

Predictors of Profile Membership: the Role of Socio-demographic, Situational and Relational Variables

The multinomial logistic regression conducted with the 3-step approach showed that, in the paired comparison of profiles, both socio-demographic variables were significant in predicting the likelihood to belong to certain profiles. More specifically, female participants were more likely to belong to the *Constructively Preoccupied* rather than the *Detached* and *Hopeful* profile (respectively $B (SE) = 1.48 (.49), p = .003$ and $B (SE) = .77 (.37), p = .036$) while older participants had a higher likelihood to belong to the *Hopeful* rather than *Constructively Preoccupied* profile ($B (SE) = .03 (.01), p = .021$). On the contrary, situational variables reported no significant association

with odds in profile membership. As for the relational domain, the quantity of online and face-to-face relationships was never significant in predicting profile belonging, while perceived loneliness was significant in the comparison of most profiles. Individuals who perceived a higher loneliness were more likely to belong to the *Detached* profile as compared to the *Hopeful* and *Constructively Preoccupied* profiles (respectively $B (SE) = .16 (.04), p = .000$; $B (SE) = .07 (.03), p = .015$) and to belong to the *Constructively Preoccupied* and *Fearful* profile rather than the *Hopeful* one (respectively $B (SE) = .09 (.02), p = .000$ and $B (SE) = .09 (.03), p = .003$). There was no significant difference in the likelihood to belong to the *Constructively Preoccupied* and *Fearful* profiles.

Comparison of the Different Profiles on Post-Traumatic Growth

Profiles' scores in all five dimensions of post-traumatic growth are shown in Figure 2. Scores were standardized on the whole-sample mean for each dimension to better display each profile's peculiarities. In general, the first profile (*Detached*) reported scores below the mean in all dimensions, while the second (*Hopeful*) was always close to mean levels and the third (*Constructively Preoccupied*) obtained higher than mean levels in the *PTGI Relating to others*, *PTGI New possibilities*, *PTGI Personal strength*, and *PTGI Appreciation of life* dimensions. The fourth profile (*Fearful*) displayed a more complex picture, with scores above the mean in *PTGI Relating to others* dimension and below the mean in all other dimensions, especially in *PTGI Appreciation of life*.

Results of the paired comparisons between profiles are reported in Table 4. The first profile's scores (*Detached*) were significantly lower than those reported by the second (*Hopeful*) and third (*Constructively Preoccupied*) profiles in all dimensions. Moreover, the third (*Constructively Preoccupied*) and second (*Hopeful*) profiles differed in their levels of *PTGI Relating to others*, *PTGI New possibilities*, and *PTGI Appreciation of life*, all significantly higher for the third profile. Lastly, the third (*Constructively Preoccupied*) and fourth (*Fearful*) profiles differed in their levels of *PTGI Appreciation of life*, higher for the third profile.

Discussion

In the present study, we investigated profiles of reaction to the ongoing pandemic grounded on diverse combinations of fear of COVID-19 and future orientation in a sample of adults. We also deemed three domains of predictors for understanding the likelihood to belong to these different profiles. To deeply understand each profile of reaction, we further paid attention to the differences between them on the factors characterizing post-traumatic growth.

Specifically, the first aim of this study was to identify emerging latent profiles based on the combinations of fear and future orientation. Our results corroborated a four-classes solution with each profile comprising a distinct number of individuals. We labeled “Detached” the first emerging latent profile because it was outlined by both low fear of the COVID-19 and low future orientation. For the sake of clarity, we remind that these findings stem from the use of a person-oriented approach. Interestingly, if we had considered simply fear, we would have deemed this profile as adaptive. Although this profile entails about 10% of our sample, it points out the relevance of considering potentially adaptive factors such as future orientation for understanding the extent to which the pandemic has psychological consequences among the population. Since several studies have reported a heavy psychological impact among the Italian population with approximately 20 to 30% of people showing moderate to extremely severe symptoms of depression, anxiety, and stress (Lenzo et al., 2020; Mazza et al., 2020; Moccia et al., 2020; Schimmenti et al., 2020b), our finding regarding a detached reaction to the pandemic could engender perplexity. One possible reason why individuals show a detached reaction despite the consequences of the pandemic (i.e., social distancing or occupational change), may lie in their pre-existing psychological functioning. In this vein, longitudinal research has shown that individuals with mental disorders, such as anxiety disorders, are more at risk of reacting with psychopathological symptoms to the pandemic, insofar that these individuals experience excessive psychological stress and tend to overestimate potential threats (Bendau et al., 2021). Moreover, it is worth emphasizing that variable-oriented research has highlighted that a negative general mood is associated with the personality trait of detachment

(Mazza et al., 2020), which is mainly characterized by intimacy avoidance (Krueger et al., 2013).

Thus, the profile of reaction to the pandemic may be dependent on several variables, including psychological functioning before the pandemic.

However, although the COVID-19 has favored the onset of psychiatric symptoms, most of our sample showed an adaptive profile of reaction characterized by low fear and high future orientation. We labeled this profile concerning about 50% of the respondents as “Hopeful”. Given that research has reported worsening mental health over time, it may appear weird that most of the sample showed a hopeful reaction profile. However, evidence from the literature suggests that stressful and traumatic events generate various patterns of outcome comprising resilience and determine a severe mental disorder only in a limited number of individuals (Bonanno et al., 2010). Likewise, it is no wonder that about 36% had a “Constructively preoccupied” reaction profile to the pandemic. This profile was depicted as a pattern of high fear and future orientation and it could distinguish individuals who have a positive attitude towards the future, though they experience the pandemic as a concrete threat for their sense of security and potentially sparking negative emotions. The fourth emerging latent profile was described by high fear of COVID-19 and low future orientation. Thus, in summary, we used the term “Fearful” to define it. Even though this profile comprised only 4.6% of the sample, we believe that it is the most worrying for its potential implications for the onset of psychiatric symptoms. As already pointed out, fear during the COVID-19 pandemic regards bodily, interpersonal, cognitive, behavioral domains and can lead to irrational thinking in reaction to the pandemic (Ahorsu et al., 2020; Schimmenti et al., 2020b), which in turn is related to a host of psychological symptoms (Şimşir et al., 2021). Undoubtedly, pandemic and its consequences such as the uncertainty of the duration or the dread of contagion has increased fear among the general population. Not surprisingly, the ongoing pandemic has also thwarted the expectation that the future can change for the better. The belief that positive future orientation is central in mitigating the impact of traumatic experiences is not a new finding (Hirsch et al., 2006), even though we claim that individuals showing a low future orientation together with a high fear

require further attention by specialists within the field. That said, the profiles of reaction emerging from latent profile analysis have been markedly disparate. Hence, we considered three domains of predictors to determine which characteristics increase the probability of belonging to one profile rather than another.

The second aim of this study was to investigate the role of socio-demographic, situational, and relational variables as predictors of profile belonging. Determining individuals who may be more at risk of developing dysfunctional profiles of reaction can be useful to enhance prevention intervention. Regarding the role of socio-demographic characteristics, we found that individuals who are “Constructively preoccupied” are more likely than others to be women. Numerous studies have already highlighted that the female gender is associated with depression, anxiety, stress, and other psychological outcomes (Xiong et al., 2020). Nevertheless, because we adopted a person-oriented approach, our findings seem to offer a more complex picture of the impact of the pandemic. Indeed, women belonging to the “Constructively preoccupied” had high fear of the COVID-19 as well as a positive future orientation. It is possible to assume therefore that the reaction to the pandemic mainly concerning women does not mean only a higher likelihood of excessive fear, because it can co-occur with the determination to fix future goals and to reach them. When considering socio-demographic characteristics, we also found that older participants were more likely than younger to be hopeful rather than constructively preoccupied. This finding seems to be coherent with previous evidence highlighting that younger age was associated with worse mental health during the COVID-19 pandemic (Ahmed et al., 2020; Hwang et al., 2020; Lenzo et al., 2020; Mazza et al., 2020). Although the highest mortality due to the COVID-19 mostly hit the elderly, it is noteworthy that older participants were more positive forward-looking than younger ones. An emotional overload experienced by young adults as a consequence of an excess of information could be responsible for this apparent discrepancy. Another issue regards the role of situational variables in predicting the profile of reaction to the pandemic. Previous studies have provided a coherent pattern of findings, though the measures of mental health taken into account

varied greatly. For example, Mazza and colleagues (2020) found that having an infected acquaintance with COVID-19, along with being unemployed, was related to higher levels of anxiety. Worth noting, unemployment caused by the pandemic accounted for the increased number of suicides (McIntyre, & Lee, 2020), especially in young adults who feel worthless (Palmu et al., 2020). Contrary to what we might expect, exposition to the virus and occupational change due to the pandemic were not significant predictors of profile membership. Our findings also suggested that the quantity of online and face-to-face relationships was not significant in predicting the profile of reaction. Nonetheless, perhaps most important to understand these contradictory findings was the result that loneliness predicted the profile of reaction to the COVID-19. Heinrich and Gullone (2006) have argued that loneliness is determined by how individual perceive their social relationships, even though quantitative characteristics may contribute. This argumentation would also seem appropriate for the ongoing pandemic because the perceived loneliness was associated with all profiles except the “Hopeful” one. Moreover, it is worthwhile to consider that higher loneliness makes it more likely to belong to the profiles characterized by high fear.

The last aim of this study was to compare post-traumatic growth between the profiles of reaction to the COVID-19 pandemic. There is evidence that post-traumatic growth represents a relatively common experience of the struggle with trauma that frequently, but not always, coexist with psychological symptoms (Wu et al., 2019). However, more research is still needed to understand its specific role in the aftermath of the pandemic. The first profile that was labeled as “Detached” showed results below the mean for all the factors and lower than the “Hopeful” and “Constructively preoccupied” profiles. This profile, therefore, shows no post-traumatic growth because it seems not to have experienced the pandemic as a traumatic experience. However, we observed this profile of reaction in a small percentage of the sample (about 10%), while most (about 50%) showed a reaction that we labeled as “Hopeful”. Not unexpectedly then, individuals who express a hopeful reaction to the COVID-19 pandemic had higher scores in all the factors characterizing post-traumatic growth than those detached. By virtue of their profile of reaction to

the pandemic, hopeful individuals may have shown average levels of post-traumatic growth because they had low fear of COVID-19. Somewhat surprisingly, post-traumatic growth was greater in constructively preoccupied individuals belonging to the third profile. Although this profile of reaction is marked by high fear, it is also the one that shows the greatest post-traumatic growth.

Conversely, the profile of reaction that we defined as “Fearful” exhibited a lower post-traumatic growth than other profiles. Of particular concern is that these individuals showed a reduced appreciation for life in general and for the value of their own existence. Indeed, when a negative future orientation coexists with high fear, a maladaptive spiral of consequences including suicide ideation and attempts may come into play (Hirsch et al., 2006).

The findings of our study may have some implications for reducing the psychological impact of the ongoing pandemic. Firstly, adopting a person-oriented approach represents a promising avenue to better grasp the marked variation in the psychological impact between people. By the same token, psychological symptoms resulting from the pandemic should be considered along with coexisting positive consequences of stressful events such as post-traumatic growth. Second, the early identification of high-risk profiles of reaction (such as the “Detached” or the “Fearful”) may be worthwhile for preventing negative mental health outcomes among the general population. In this regard, the administration of simply self-report instruments may be useful to support this strategy. Third, our findings could help specialists within the field to implement psychological treatments comprising online psychological interventions for individuals who are in quarantine or geographically distant. Besides facing the spread of the virus and caring for the infected patients, the health care authorities should also better address the mental health of the general population, especially individuals who show a maladaptive profile of reaction to the pandemic.

Limitations

Although our findings add evidence in the understanding of the psychological impact of the COVID-19 pandemic, there are also some limitations that future studies should address. First, the

role of physical symptoms in worsening the psychological impact of the pandemic among the general population was not taken into account. Indeed, our findings may also hinge on physical symptoms experienced by the participants, which in turn, may worsen their mental health. In pursuing this question, findings from a recent study have shown that physical symptoms resembling COVID-19 infection increase the reported symptoms of anxiety, depression, and stress (Wang et al., 2021). This relationship is mediated by the need for health information and the perceived impact of the pandemic. Second, this study used self-report measures to assess the variables of interest, and the data were collected through an online survey. Thus, it is not possible to exclude that social desirability may have influenced the reported symptoms. Third, this study adopted a cross-sectional design that did not allow us to infer causal relationships between the observed variables. In this vein, longitudinal studies would better clarify the effect of socio-demographic, situational, and relational variables on the different profiles of reaction. Lastly, other individual variables not taken into account could have influenced the results. Variables related to personality, such as attachment style or mentalization, may have an effect on the perceived loneliness, which in turn may influence the likelihood to belong to the various profiles of reaction.

Conclusion

In sum, our results suggested various profiles of reaction to the COVID-19 pandemic based on the combination of fear and future orientation. About half of the sample showed a hopeful reaction characterized by low fear and high future orientation, while a small percentage had a profile of reaction with high fear and low future orientation that is potentially alarming due to its clinical implications. Other emerging profiles were labeled as “Detached” and “Constructively preoccupied” and they involved about 10% and 36%, respectively. The results also pointed out that the female gender was more likely to be associated with the “Constructively preoccupied” profile than others. Moreover, older age was more likely than younger to belong to the “Hopeful” profile. Among situational and relational variables, only the perceived loneliness represents a risk factor for

the “Detached”, “Constructively preoccupied”, and “Fearful” profile of reaction. Interestingly, individuals who belong to the “Constructively preoccupied” profile showed the greatest post-traumatic growth.

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FEAR OF COVID-19 AND FUTURE ORIENTATION

Figure 1

The four profiles emerging from the Latent Profile Analysis

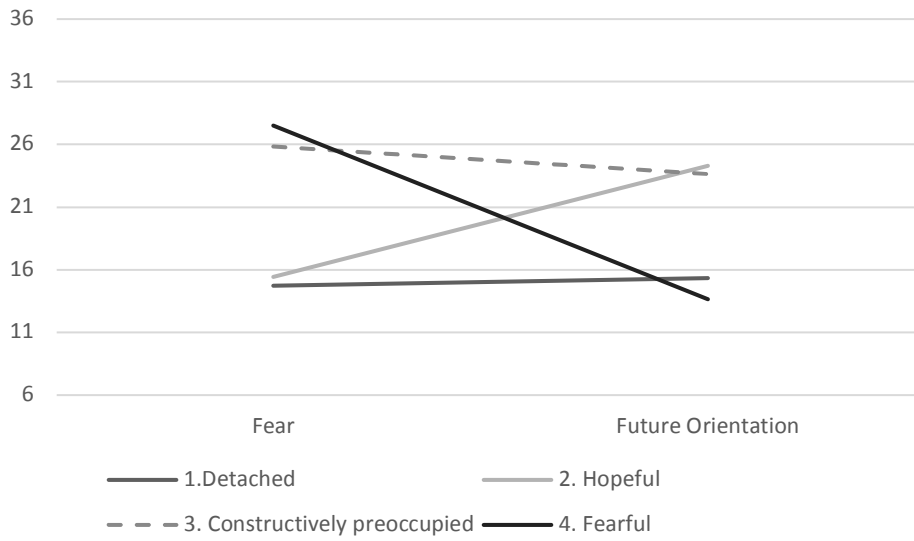


Figure 2

Profiles' scores in the five dimensions of post-traumatic growth

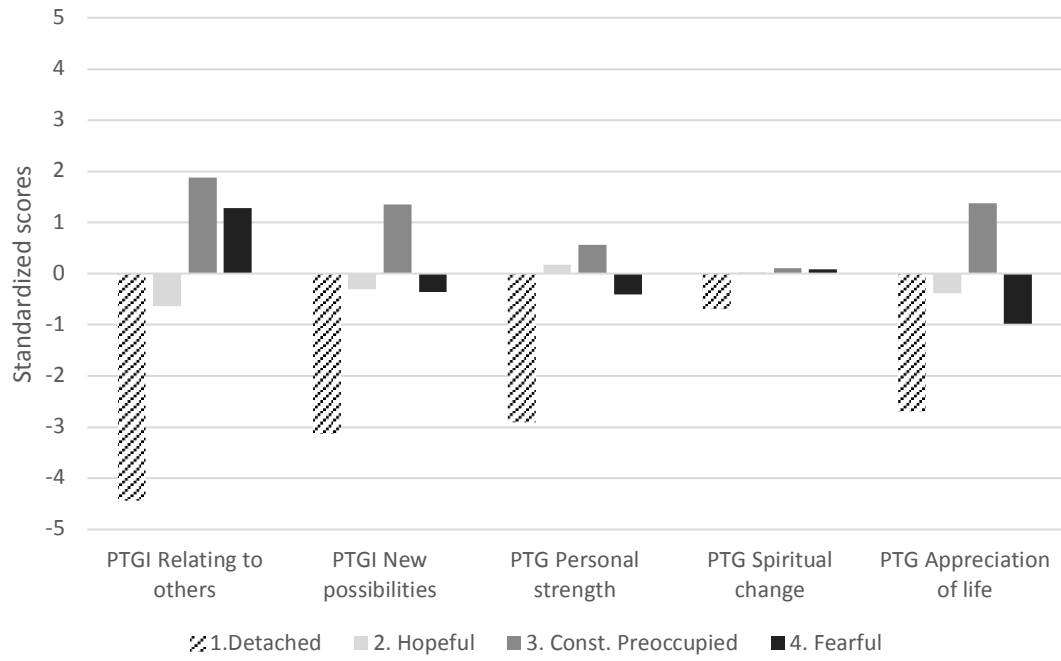


Table 1*Descriptive statistics and intercorrelations for continuous variables*

<i>Variables</i>	1	2	3	4	5	6	7	8	9
1 Age	-	-.13**	-.04	-.13**	-.07	-.04	-.02	.11**	.02
2 Covid Fear		-	-.05	.20**	.20**	.16**	.10**	.05	.25**
3 Future Orientation			-	-.26**	.17**	.28**	.28**	.13**	.26**
4 Loneliness				-	-.15**	-.13**	-.17**	-.07	-.10**
5 PTGI Relating to others					-	.78**	.74**	.60**	.68**
6 PTGI New possibilities						-	.87**	.61**	.75**
7 PTGI Personal strength							-	.59**	.69**
8 PTGI Spiritual change								-	.47**
9 PTGI Appreciation of life									-
<i>M</i>	33.41	19.64	22.71	42.78	16.56	12.58	10.27	3.42	9.00
<i>SD</i>	12.70	6.84	4.83	10.76	8.61	6.33	5.41	2.25	3.91
Range	16-70	8-40	6-30	20-80	7-42	5-30	4-24	2-12	3-18

Table 2*Analyses of variance*

Variables	Analysis of variance				
	Male <i>M (SD)</i>	Female <i>M (SD)</i>	<i>F (1,638)</i>	<i>p</i>	η^2
<i>Variance by gender</i>					
Covid Fear	17.46 (6.28)	20.22 (6.87)	18.04	.000	.03
Future Orientation	21.84 (4.94)	22.95 (4.85)	5.55	.019	.01
PTGI Relating to others	14.19 (7.48)	17.20 (8.79)	13.33	.000	.02
PTGI New possibilities	11.44 (5.88)	12.89 (6.41)	5.66	.018	.01
PTGI Personal strength	9.01 (5.01)	10.61 (5.47)	9.53	.002	.02
PTGI Spiritual change	3.23 (2.04)	3.47 (2.31)	1.24	.266	.00
PTGI Appreciation of life	7.59 (3.65)	9.39 (3.90)	23.41	.000	.04
<i>Variance by occupational change</i>					
	Yes <i>M (SD)</i>	No <i>M (SD)</i>	<i>F (1,638)</i>	<i>p</i>	η^2
<i>Job loss</i>					
Covid Fear	21.04 (7.67)	19.47 (6.72)	2.48	.116	.00
Future Orientation	23.04 (4.69)	22.65 (4.89)	.26	.609	.00
PTGI Relating to others	19.44 (10.31)	16.26 (8.37)	6.69	.010	.01
PTGI New possibilities	14.98 (8.18)	12.33 (6.07)	8.57	.004	.01
PTGI Personal strength	11.94 (6.18)	10.10 (5.30)	5.69	.017	.01
PTGI Spiritual change	3.93 (2.68)	3.36 (2.20)	3.00	.084	.01
PTGI Appreciation of life	10.43 (4.70)	8.87 (3.81)	7.86	.005	.01
<i>Job change</i>					
Covid Fear	19.69 (6.97)	19.60 (6.81)	.00	.951	.00
Future Orientation	23.73 (4.62)	22.60 (4.89)	2.47	.116	.00
PTGI Relating to others	18.83 (9.43)	16.33 (8.49)	3.95	.047	.01
PTGI New possibilities	14.83 (7.38)	12.35 (6.17)	7.19	.008	.01
PTGI Personal strength	11.67 (5.88)	10.13 (5.34)	3.82	.051	.01
PTGI Spiritual change	3.71 (2.59)	3.38 (2.21)	.96	.329	.00
PTGI Appreciation of life	10.10 (4.44)	8.90 (3.85)	4.42	.036	.01

Table 3*Fit indices for latent profile models with two to five classes*

Number of classes	loglikelihood	VLMR-LRT	BLRT	aBIC	Entropy
2	-4055.86	$p = .000$	$p = .000$	8134.78	.78
3	-4051.34	$p = .662$	$p = .102$	8135.60	.62
4	-4033.66	$p = .003$	$p = .000$	8110.13	.71
5	-4028.66	$p = .055$	$p = .065$	8110.00	.76

Table 4*Paired comparisons between profiles on five dimensions of post-traumatic growth*

Variables	M	SE	Comparison with profile 2		Comparison with profile 3		Comparison with profile 4	
			χ^2	<i>p</i>	χ^2	<i>p</i>	χ^2	<i>p</i>
<i>PTGI Relating to others</i>								
1 Profile 1 – Detached	12.12	.81	14.32	.000	32.68	.000	3.89	.050
2 Profile 2 – Hopeful	15.92	.39	-	-	5.02	.025	.49	.484
3 Profile 3 – Constructively preoccupied	18.44	.76			-	-	.03	.846
4 Profile 4 – Fearful	17.85	2.73					-	-
<i>PTGI New possibilities</i>								
1 Profile 1 – Detached	9.15	.62	16.96	.000	36.34	.000	3.43	.064
2 Profile 2 – Hopeful	12.28	.43	-	-	4.22	.040	.00	.969
3 Profile 3 – Constructively preoccupied	13.93	.55			-	-	1.00	.318
4 Profile 4 – Fearful	12.22	1.52					-	-
<i>PTG Personal strength</i>								
1 Profile 1 – Detached	7.36	.57	19.89	.000	24.76	.000	2.28	.131
2 Profile 2 – Hopeful	10.43	.36	-	-	.37	.346	.14	.704
3 Profile 3 – Constructively preoccupied	10.84	.45			-	-	.34	.558
4 Profile 4 – Fearful	9.86	1.53					-	-
<i>PTG Spiritual change</i>								
1 Profile 1 – Detached	2.73	.16	10.36	.001	10.69	.001	1.62	.203
2 Profile 2 – Hopeful	3.45	.16	-	-	.09	.767	.01	.918
3 Profile 3 – Constructively preoccupied	3.53	.19			-	-	.00	.974
4 Profile 4 – Fearful	3.51	.59					-	-
<i>PTG Appreciation of life</i>								
1 Profile 1 – Detached	6.31	.43	20.13	.000	56.64	.000	3.85	.050
2 Profile 2 – Hopeful	8.62	.27	-	-	13.05	.000	.59	.443
3 Profile 3 – Constructively preoccupied	10.37	.32			-	-	7.57	.006
4 Profile 4 – Fearful	8.02	.76					-	-