**Can Coping Styles and Beliefs About Yourself Predict Coping Strategies in a Pandemic? Longitudinal Study on the Role of Hope, General Self-Efficacy, Prioritizing Positivity and Coping in the COVID-19 Pandemic.**

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The COVID-19 pandemic took over the whole world in early spring 2020. There have already been a monumental number of cases of the virus, and there have been significant effects associated with getting sick. There are evidence of not only the deterioration of physical health but also mental health, for example, symptoms of OCD (*Obsessive-Compulsive Disorder*), and GAD (*Generalized Anxiety Disorder)* have worsened (Abba-Aji et al., 2020; Frohman et al., 2020, Qiu et al., 2020). The pandemic has filled people with anxiety due to the novelty of the situation and because it is not clear how to behave in such a crisis. With the current situation, people are deprived of activities that could help reduce anxiety. It is recommended not to meet with relatives, and recreational places – such as gyms and restaurants – remain closed.

Research after 9/11 has shown that appreciation for one's life can be associated with wellbeing and reduced effects from post-traumatic stress disorder (Dekel et al., 2016). Finding meaning in attacks by living according to one's values and accepting the emotions associated with the attack is a predictor of coping particularly well and having fewer psychological complications (Polizzi et al., 2020). Thus, finding ways to engage with and appreciate life can be associated with wellbeing, something that also works during the pandemic (Dekel et al., 2016; Polizzi et al., 2020). For example, social support in the form of social media contact, support and empathy behaviours help to effectively manage stress (Polizzi et al., 2020). Nevertheless, based on the mentioned studies it can be concluded that global crises, such as 9/11 and or Covid-19, have a real and lasting impact on mental health and that previous crises serve us in better understanding the current pandemic.

Coping with stress can be seen as infusing everyday events with positive things (Folkman, 2008). In general, people want to feel good, and they extend positive moments as long as possible (Folkman, 2008; Tugade & Fredrickson, 2007). Maintaining these moments is possible, for example, by talking about them (Isen, 2000). Positive emotions are related to

wellbeing and to prioritizing positivity, which is an effective strategy for the pursuit of happiness (Catalino et al., 2014). Positive emotions seem to play a large role in recovery from traumatic events. One component of resilience are positive emotions and it has been shown that after 9/11, positive emotions protected against depression and resulted in wellbeing in resilient people (Fredrickson et al., 2003).

Research shows that the anxiety which many people regularly feel during a pandemic can negatively affect their sense of self-efficacy (Arora et al., 2021). Self-efficacy contains the belief that one can handle a situation and achieve a given goal (Luszczynska, Scholz, Schwarzer, 2005; Sherer et al., 1982). It has been shown that the higher our level of anxiety, the lower our sense of self-efficacy (Arora et al., 2021). This, in turn, can reflect on performance in various areas of life, for example school performance (Abdi et al., 2012). However, it has been shown that coping strategies as a moderating variable have a significant and positive impact on self-efficacy (Arora et al., 2021). The lower the level of coping strategies, the stronger the negative relationship between anxiety and self-efficacy. However, when the level of coping strategies is higher, this association becomes weaker. Given the constraints of working online, it is reasonable to assume that many people have not been capable of achieving their goals. Giving up an unattainable goal is associated with high levels of self-control and low levels of depression (Wrosch et al., 2003). Additionally, positive expectations predict resilience after trauma (Gallagher et al., 2020). Benight and Bandura (2004) demonstrated that perceptions of self-efficacy are a key mediator in posttraumatic recovery. Self-efficacy may also be related to performance status for oncology patients for whom higher self-efficacy was associated with better performance status (Mystakidou et al., 2015).

Also noteworthy is the construct of hope, which strongly links to coping (Folkman, 2013). People need hope when it is absent, often in uncontrollable situations, and the

emergence of hope in high stress situations is dependent on coping. The reverse also works, namely that hope is needed to cope with a stressful situation for an extended period of time, a major part of this current pandemic situation because we are not sure when it's going to end (Folkman, 2013).

It has been demonstrated that people who are experiencing stress related to COVID-19 have made attempts to cope with the stress (Taylor et al., 2020). The most frequently used strategies include behaviours such as watching television, cleaning or contacting loved ones (Taylor et al., 2020). Strategies such as active coping, denial, use of emotional support, humour, religion and self-blame are also associated with wellbeing during a pandemic (Umucu & Lee, 2020).

Coping with stress is differentiated into styles and strategies. Coping styles comprise a relatively enduring disposition to deal with different types of stressors, while strategies are more situational and relate to specific events or time periods (Carver et al., 1989). Which strategy is chosen depends on the stressor and individual characteristics. For example, people choose problem-focused coping when they think that the stressor is controlled, but when the situation seems uncontrollable, emotion-focused strategies are chosen (Carver et al., 1989; Newman et al., 2011). Using meaningful strategies should reduce negative emotions and the tension associated with them. Given a pandemic situation, we might expect to find attempts to cope with emotions.

However, there is not yet much research to clarify the association between coping styles and strategies. In the literature, we have examples which show that the most frequently selected coping style is the problem-oriented style, including confrontational, optimistic and self-reliant behaviours, and a similar situation exists for coping strategies, with the most frequently selected strategies the confrontational and optimistic strategies (Cronqvist et al., 1997). The use of strategies may be situation-dependent, meaning that coping is variable

across situations, which is consistent with an interactional model of stress and coping in which the assessment of the situation changes as it unfolds (Lazarus & Folkman, 1984). For athletes, it was found that strategy choice depended on perceived control – avoidance was used in situations with low control and approach coping was chosen in situations with high perceived control (Anshel & Kaissidis, 1997). The same strategy choice applies to students who perceive school situations as more controllable than stressful situations in the family (Griffith et al., 2000). Given the pandemic situation that is beyond our control, pre-pandemic coping styles may not be particularly strong predictors of specific strategies or behaviours.

In the present study, we wanted to examine how self-efficacy, prioritizing positivity and hope prior to the COVID-19 pandemic affected coping during the pandemic. Our hypotheses were:

*H1: Hope, self-efficacy and prioritizing positivity influences the choice of active coping strategies during COVID-19*

*H2: Prioritizing positivity, hope and self-efficacy affect stress levels and emotions during COVID-19.*

*H3: There is a moderate relationship between coping styles and corresponding coping strategies.*

*H4: Strategy choice mediates the effect of hope, self-efficacy and prioritizing positivity on stress levels.*

## Methods

### Procedure

This study was divided into two stages. The first stage took place in October 2019, which was a few months before the COVID-19 pandemic was announced in Poland, and the second stage was conducted about a year later in November 2020 during the second wave. The study was conducted online with a research panel in which our participants had to

complete questionnaires. This study was approved by the university ethics committee, and it was anonymous and voluntary.

**Participants**

Data were collected from a sample of 66 university students who took part in both stages. Each of the students were given special credits for participating in this study; these are credits which they have to obtain while in college, for example, by participating in research. In the first stage, there were 447 participants who attended our study. Unfortunately, due to difficulties in recognising the ID numbers of our participants, which were to be used to recognise and match data from both measurements, only 66 students were left in the end – most of them were women (89.4%), which is consistent with the gender distribution among psychology students at the university where the study was conducted. Their ages ranged from 18 to 47 years old ($M = 24.55$, $SD = 7.64$).

**Measures**

*Measures in the First Stage*

**Coping Style.** Coping styles were measured by using the Brief Cope Scale (Carver, 1997). The questionnaire consists of 28 questions measuring 14 types of coping styles: active coping, planning, positive reframing, humour, religion, acceptance, self-blame, self-distraction, denial, substance use, venting, behavioural disengagement, use of emotional support and use of instrumental support (Carver, 1997). In this stage, we asked our participants how they usually cope with stress, thereby allowing us to examine their coping styles which have a relatively enduring disposition to deal with different types of stressors.

**General self-efficacy (GSE).** The questionnaire used to measure self-efficacy was the Polish version (Schwarzer et al., 2007) of the General Self-Efficacy Scale (Schwarzer & Jerusalem, 1995). The General Self-Efficacy Scale consists of 10 statements which measure

the strength of an individual's belief in the ability to cope with difficult situations. The reliability coefficient of this questionnaire in this study was .93.

**Prioritizing Positivity (PP).** To measure prioritizing positivity, we used the Polish version (Machlah & Zięba, in press) of the Prioritizing Positivity Scale (Catalino & Boulton, 2020). This scale includes five statements which measure whether people organise  their time in a way that maximises their positive emotions. The Cronbach's alfa of the test was .87.

**Hope.** We used the Polish version (Łaguna et al., 2005) of the Adult Dispositional Hope Scale (Snyder et al., 1991) which contains eight statements – four of them measure agency (e.g., "I energetically pursue my goals") and four measure pathway thinking (e.g., "Even when others get discouraged, I know I can find a way to solve the problem"). Each of the items was rated on an 8-point Likert Scale. This questionnaire measures how people perceive themselves when pursuing a goal in different situational contexts. The Cronbach's alfa of this test was .94.

**Emotions.** In this study, the Polish translation of the Modified Differential Emotions Scale was used (Fredrickson, 2013). This scale measures the positive and negative emotions a person feels at a given time. Respondents had to respond to 20 statements by determining how often they felt a given emotion. The Cronbach's alfa for the positive emotions in the first stage was .92 and for the negative emotions was .81.

*Measures in the Second Stage*

**Coping Strategies.** Coping with stress strategies was measured by using the Brief Cope Scale (Carver, 1997). In stage 2, the instructions were changed to include the COVID-19 context and stress related to the pandemic. We asked our participants to identify what strategies they used to cope with the stress due to the COVID-19 pandemic in the second half of March and early April 2020, which were the first few weeks after the outbreak of the

pandemic in Poland. In the second part, we asked what they did to cope with the stress and problems due to the COVID-19 pandemic in the last two weeks before measurement.

**Stress**. To measure stress levels, we used the Polish version (Juczyński & Ogińska-Bulik, 2009) of The Impact of Event Scale, revised version IES-R (Weiss & Marmar, 1997). This scale contains 22 statements that asses subjective feelings of stress due to traumatic experiences, which in this study was COVID-19. The Cronbach's alfa of this test was .93.

In the second stage of the study, we again measured emotions using the Modified Differential Emotions Scale.

## RESULTS

To test our hypotheses, we conducted correlation analysis. Thevariables were not normally distributed, but nevertheless, based on other studies, we decided to use r-Perasona correlations (Havlicek & Peterson, 1976).

Results show the relationships between GSE, Hope and PP, on the one hand, and positive and negative emotions, on the other hand, which were measured a few months before the pandemic. GSE and Hope also turned out to be predictors of the intensity of positive emotions (and Hope was also a predictor of a low level of negative emotions) which were measured one year later during the second wave of the pandemic. These associations were moderate.

Next, we checked whether GSE, Hope and PP were related to the coping styles. As presented in Table 2, the associations of GSE and Hope with coping styles were very similar – high levels of these beliefs about ourselves were associated with the tendency to use active coping, planning, positive reframing and acceptance coping styles and negatively associated with behavioural disengagement and self-blame. The correlation between PP and coping styles was similar to the association of GSE and hope with coping styles, with the difference

that PP didn't correlate with the acceptance coping style, and, in contrast to other's beliefs, there was a positive association between PP and the use of emotional support, use of instrumental support and venting.

**Table 1**

*Correlations for stress and emotions during pandemic, prioritizing positivity, self-efficacy and hope*

| Variable | *M* | *SD* | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|---|---|
| Stage 1 | | | | | | | | | | |
| 1. Self-Efficacy | 29.59 | 5.69 | - | .50** | .84** | .67** | -.34** | -.11 | .33** | -.22 |
| 2. Prioritizing Positivity | 33.52 | 7.32 | | - | .65** | .62** | -.26* | -.04 | .04 | -.08 |
| 3. Hope | 47.05 | 10.67 | | | - | .74** | -.38** | -.12 | .29* | -.25* |
| 4. Positive Emotions | 26.44 | 7.91 | | | | - | -.37** | -.10 | .31* | -.23 |
| 5. Negative Emotions | 11.59 | 4.93 | | | | | - | -.04 | -.05 | .22 |
| Stage 2 | | | | | | | | | | |
| 6. Symptoms of Stress | 28.91 | 17.28 | | | | | | - | -.51** | .61** |
| 7. Positive Emotions | 20.23 | 8.95 | | | | | | | - | -.63** |
| 8. Negative Emotions | 13.42 | 6.50 | | | | | | | | - |

*Note: * p < .05, ** p < .01*

A year later when we asked our respondents which coping strategies they had used during the first weeks of COVID-19 pandemic (March–April 2020) and also during the last two weeks before the measurement (November 2020), the importance of GSE, hope and PP were clearly lower, as shown in Tables 3 and 4. The choice of coping strategies used in the beginning of the pandemic appeared to be unrelated to the level of GSE or PP. Hope predicted the choice of active coping strategy and planning. However, in analysing these

**Table 2**

*Correlations between coping styles and other variables*

| Variables | M | SD | GSE | PP | Hope | Stress | PE | NE |
|---|---|---|---|---|---|---|---|---|
| Active coping | 3.05 | .64 | .62** | .28* | .68** | .004 | .39** | -.21 |
| Planning | 2.92 | .65 | .60** | .35** | .64** | .02 | .35** | -.11 |
| Positive reframing | 2.62 | .77 | .51** | .38** | .56** | -.11 | .34** | -.24* |
| Acceptance | 2.90 | .58 | .36** | .13 | .40** | .04 | .07 | -.09 |
| Humour | 2.19 | .87 | .08 | .06 | .08 | -.13 | -.09 | .01 |
| Religion | 1.73 | .97 | .01 | .12 | .04 | -.01 | .12 | .02 |
| Use of emotional support | 3 | .68 | .13 | .32** | .25* | .25* | -.05 | .17 |
| Use of instrumental support | 2.84 | .76 | .04 | .42** | .17 | .24 | -.18 | .24* |
| Self-distraction | 2.72 | .62 | .04 | -.05 | .03 | .11 | -.02 | -.09 |
| Denial | 1.52 | .66 | -.08 | .16 | .04 | .11 | -.11 | .14 |
| Venting | 2.7 | .72 | .02 | .27* | .12 | .23 | -.14 | .26* |
| Substance use | 1.5 | .75 | -.14 | -.05 | -.15 | -.06 | -.24 | .05 |
| Behavioural disengagement | 1.76 | .62 | -.61** | -.26* | -.58** | .22 | -.43** | .38** |
| Self-blame | 2.58 | .94 | -.31* | -.13 | -.28* | .03 | -.16 | .14 |

*Note*. PP – prioritizing positivity; GSE – general self-efficacy, PE – positive emotions (in stage 2), NE – negative emotions (in stage 2); $^*p < .05$, $^{**}p < .01$.

results, it is worth taking into account that the respondents may not have later remembered how they coped with stress at the beginning of the pandemic. In the case of coping strategies which were used to deal with stress due to COVID-19 in the last two weeks before the second measurement, some associations with GSE, hope and PP could be observed with a high level of these beliefs correlated with active coping strategies. Moreover, the GSE level was positively associated with positive reframing and negatively associated with behavioural disengagement. A high level of PP also supported the use of planning, use of instrumental support and self-distraction.

**Table 3**

*Correlation coefficients for coping strategies used in the first weeks of the COVID-19 pandemic.*

| Variables | *M* | *SD* | GSE | PP | Hope | Stress | PE | NE |
|---|---|---|---|---|---|---|---|---|
| Active coping | 2.36 | .83 | .21 | .15 | .30* | -.03 | .26* | .004 |
| Planning | 2.36 | .91 | .17 | .22 | .35** | .07 | .21 | -.04 |
| Positive refraining | 2.64 | .78 | .14 | .14 | .15 | .21 | .26* | .16 |
| Acceptance | 3.02 | .70 | -.01 | .11 | .05 | .01 | .07 | 0.10 |
| Humour | 2.38 | .86 | .10 | .12 | .11 | -.08 | .05 | -.05 |
| Religion | 1.45 | .74 | -.06 | .01 | -.07 | .01 | .12 | -.02 |
| Use of emotional support | 2.55 | .87 | .23 | .18 | .19 | .35** | .10 | .14 |
| Use of instrumental support | 2.38 | .87 | .19 | .17 | .17 | .23 | .10 | .15 |
| Self-distraction | 2.33 | .71 | .11 | .11 | .15 | .34** | .07 | .12 |
| Denial | 1.41 | .59 | -.03 | -.04 | -.07 | .29* | -.22 | .24 |
| Venting | 2.41 | .71 | .22 | .09 | .17 | .42** | -.07 | .19 |
| Substance use | 1.33 | .64 | -.02 | -.03 | -.06 | .34** | -.27* | .22 |
| Behavioural disengagement | 1.46 | .61 | -.16 | .07 | -.12 | .23 | -.28* | .27* |
| Self-blame | 1.39 | .55 | -.13 | .08 | .07 | .03 | -.09 | .00 |

*Note*. PP – prioritizing positivity; GSE – general self-efficacy, PE – positive emotions (in stage 2), NE – negative emotions (in stage 2);  * $p < .05$, ** $p < .01$.

As presented in Table 5, the results of correlation analysis between coping styles and strategies used during the pandemic indicated a wide variation in covariance between each coping style and corresponding strategy. In the case of most coping styles, their level as measured one year before the COVID-19 pandemic turned out to be a predictor of the use of the corresponding coping strategies as a result of the stress due to the pandemic. However, with the exception of religion, these associations were weak or moderate. In contrast, the levels of coping styles such as acceptance, self-distraction and self-blame didn't predict the frequency of use of their corresponding coping strategies. For example, if an individual's

**Table 4**

*Correlation coefficients for coping strategies in the last two weeks before the measurement.*

| Variables | *M* | *SD* | GSE | PP | Hope | Stress | PE | NE |
|---|---|---|---|---|---|---|---|---|
| Active coping | 2.33 | .95 | .30* | .39** | .40** | .26* | .12 | .11 |
| Planning | 2.39 | 1.03 | .24 | .32** | .38** | .15 | .15 | .08 |
| Positive reframing | 2.51 | 1.01 | .27* | .16 | .26* | -.02 | .36** | -.04 |
| Acceptance | 2.91 | .85 | .05 | .08 | .04 | .34* | -.20 | .35** |
| Humour | 2.41 | .96 | .06 | .04 | .15 | -.14 | .01 | .02 |
| Religion | 1.45 | .79 | -.03 | .11 | -.03 | .03 | .09 | .03 |
| Use of emotional support | 2.30 | 1 | .17 | .20 | .12 | .39** | .07 | .25* |
| Use of instrumental support | 2.20 | .92 | .23 | .30* | .18 | .26* | .10 | .18 |
| Self-distraction | 2.26 | .88 | .06 | .29* | .04 | .47** | -.20 | .31* |
| Denial | 1.28 | .55 | -.10 | .06 | -.07 | .35** | -.28* | .27* |
| Venting | 2.23 | .82 | .22 | .19 | .10 | .45** | -.12 | .43* |
| Substance use | 1.18 | .52 | -.03 | .04 | -.16 | .26* | -.15 | .31* |
| Behavioural disengagement | 1.42 | .71 | -.34** | -.01 | -.22 | .32** | -.43** | .42** |
| Self-blame | 1.44 | .60 | -.14 | -.05 | -.11 | .40** | -.34** | .36** |

*Note*. PP – prioritizing positivity; GSE – general self-efficacy, PE – positive emotions (in stage 2), NE – negative emotions (in stage 2); $^*p < .05$, $^{**}p < .01$.

typical coping style was acceptance of the stressful situation, it didn't mean that in this sample, this individual was trying to accept the pandemic situation in order to reduce the level of stress associated with that situation. This was similarly the case for self-distraction and self-blame. In the case of these three coping styles/strategies, we can assume that the demands of this new and specific situation, that is, the COVID-19 pandemic, may have more impact on the choice (or not) of the particular strategy than the dispositional tendency to use (or not) the strategy in ordinary situations.

The participants were asked about the frequency of use of each coping strategy during the first few weeks after the pandemic was announcement in Poland and also over the last two

weeks before the second measurement (November 2020). The results shown in Table 5 (right part) indicate that respondents declared a similar frequency of use for each strategy in both time periods, with the exception of the use of emotional support, use of instrumental support and substance use, for which the frequency of use was significantly lower in the later time period. However, these differences were small, as demonstrated by Cohen's $d$ values <.4 (Cohen, 1988). This may suggest a relatively high degree of stability for coping strategies used by our participants to deal with pandemic stress. However, it is also possible that the respondents didn't remember how they coped with stress at the beginning of the pandemic, and they rated the frequency of using each strategy based on their experiences over the last weeks.

**Table 5**

*Correlation between coping styles and coping strategies used in both of the measures (first weeks of the COVID-19 pandemic and the last two weeks before the measurement) and comparison of means for coping strategies during both stages.*

| Coping styles | Coping strategies in the first weeks of the COVID-19 pandemic | | Coping strategies in the two weeks before the measurement | | Comparison of means for coping strategies during the first and last weeks | | |
|---|---|---|---|---|---|---|---|
| | $r$ | $p$ | $r$ | $p$ | $t$ | $p$ | Cohen's $d$ |
| 1. Active coping | .32** | .010 | .35** | .004 | .39 | .697 | .05 |
| 2. Planning | .25* | .045 | .26* | .034 | -.22 | .825 | .02 |
| 3. Positive reframing | .25* | .048 | .25* | .042 | 1.33 | .189 | .17 |
| 4. Acceptance | -.01 | .915 | -.03 | .786 | 1.44 | .156 | .17 |
| 5. Humour | .53** | .000 | .41** | .001 | -.34 | .736 | .04 |
| 6. Religion | .78** | .000 | .70** | .000 | .13 | .901 | .02 |
| 7. Use of emotional support | .39** | .001 | .31* | .012 | 2.91 | .005 | .36 |
| 8. Use of instrumental support | .23 | .067 | .32** | .009 | 2.04 | .045 | .25 |
| 9. Self-distraction | .15 | .216 | .14 | .259 | .75 | .458 | .10 |
| 10. Denial | .30* | .015 | .11 | .384 | 1.67 | .101 | .21 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 11. Venting | .39** | .001 | .25* | .040 | 1.95 | .055 | .23 |
| 12. Substance use | .41** | .001 | .22 | .071 | 2.53 | .014 | .30 |
| 13. Behavioural disengagement | .33** | .007 | .39** | .001 | .44 | .658 | .06 |
| 14. Self-blame | .08 | .550 | -.03 | .837 | -.50 | .616 | .07 |

Despite the lack of correlation between beliefs and stress levels, we conducted a mediation analysis to test Hypothesis 4. The reason for this is that the absence of such a relationship does not necessarily indicate the absence of a causal relationship (Hayes, 2017). Therefore, we used the SPSS Process macro by Hayes (2013). Mediation analyses were conducted for models in which GSE, Hope or PP were predictors, and they stressed the dependent variable for each of the coping strategies as a potential mediator of the effects of GSE, hope or PP on stress. However, the results did not support our hypothesis that strategy choice is a mediator of the effect of beliefs on stress levels and, therefore, Hypothesis 4 was not confirmed.

## Discussion

### Hope, General Self-efficacy, and Prioritizing Positivity as Predictors of Coping

Our findings show that there were some associations between several coping strategies measured over the last two weeks and self-efficacy, prioritizing positivity and hope. However, there was no connection between these variables and coping strategies as measured at the beginning of the pandemic.

A comparison of the associations of GSE, hope and PP with coping styles (how the respondents usually dealt with stress) and the associations of these variables with the choice of coping strategies from the stress related to the COVID-19 pandemic shows some similarities but also differences. Noteworthy is the association between PP and self-distraction. Results indicated that there was no connection between PP and the self-distraction coping style, but, on the other hand, PP level seems to predict the use of self-distraction as a

coping strategy in the context of the pandemic. Perhaps seeking opportunities to experience positive emotions, which is generally not associated with distraction from difficulties as a coping strategy, may play such a role in the case of a pandemic situation. Some researchers have confirmed that many people in coping with the difficulties of life during the COVID-19 pandemic have increased the amount of time spent on entertainment, such as watching a TV series (Cauberghe et al., 2021; Taylor et al., 2020). Perhaps this is in particular the case for people with a high level of PP, which can be considered as the ability to regulate emotions by generating opportunities to experience positive affective states.

**Prioritizing positivity, hope and self-efficacy and stress levels during COVID-19**

According to our results there were no associations between GSE, Hope, PP and stress level measured on the study second stage. This is consistent with other findings which indicate that more important than general beliefs about oneself are those about one's ability to cope with a specific source of stress (Luszczynska, Gutiérrez-Doña, Schwarzer, 2005).

The current COVID-19 pandemic is associated with high levels of stress or anxiety (Huang & Zhao, 2020; Taylor et al., 2020). We have observed that the stress level is related to the emotions which are experienced. This means that we have actually managed to measure the emotion felt at the moment and, as might be expected, stress is significantly related to high levels of negative emotions and low levels of positive emotions. In this study, self-efficacy and hope were associated with feelings of positive emotions during the pandemic. Based on other studies, we also expected an association between PP and positive emotions (Catalino et al., 2014; Littman-Ovadia & Russo-Netzer, 2019); however, these results were not reflected in our study.  In the current pandemic context, such a tendency may not be as effective as in normal circumstances because our affective state is more influenced by factors beyond our control and perhaps the strategies developed under normal circumstances for seeking opportunities to experience positive emotions are inappropriate in a

pandemic situation. We believe that the seriousness of the situation associated with the COVID-19 pandemic makes it difficult to look for occasions to feel positive emotions due to, for example, restrictions such as social isolation. It is also noteworthy that prioritizing positivity predicted the use of self-distraction in the context of the pandemic. Positive distraction appears to be a form of adaptive coping for a chronic stressor (Waugh et al., 2020). Other studies have shown that distractions, such as social media (Twitter, Instagram, TikTok, etc.), to help people actively cope with the current situation are associated with a reduction in stress and anxiety to some extent and to an increase in happiness (Cauberghe et al., 2021). A possible adaptive coping strategy during a pandemic seems to be to enjoy spending quality time and infusing everyday events with positive things (Finlay et al., 2021).

**Relationship between coping styles and corresponding coping strategies**

This study also aimed to examine if there is an association between coping styles measured before the pandemic and corresponding coping strategies in a highly specific context, which in our study is the COVID-19 pandemic.

Consistent with previous studies (Delahaij & Van Dam, 2017) as well as our hypothesis, coping styles primarily predicted coping strategies for stress related to the COVID-19 pandemic. Moreover, acceptance was found to be the most frequently used strategy during the pandemic. Acceptance appears to be an effective strategy during COVID-19 (Polizzi et al., 2020). Most likely, this strategy is currently an adaptive strategy forced by a pandemic situation, defined as a chronic stress over which an individual has no control and has no ability to end. These findings are consistent with research on strategy choice dependent on perceived control (Anshel & Kaissidis, 1997).

The level of stress measured is reflected in the emotions felt at a given time. Therefore, the association between strategies from the beginning of the pandemic and stress may suggest their impact on current stress levels. The results in this case showed some positive

relationships as well. The highest means of coping here were strategies such as self-distraction, venting, substance use, and use of emotional support. Some of these results were unexpected. For example, the use of emotional support involves seeking support or understanding from others, such as friends or family. Some studies have shown that social support is associated with a decrease in some of the symptoms of stress and anxiety (Chamberlin & Green, 2010; Grills-Taquechel et al., 2011). These results were not reflected in this study and the use of emotional support was positively associated with higher stress levels. However, those findings are consistent with those obtained in a study of Italian healthcare workers (Babore et al., 2020). Seeking emotional support may not be useful because a lot of us are struggling with the current situation, and it may be harder for us to support others when we need emotional support as well. Therefore, emotional support from others may not be effective in reducing stress in the context of the COVID-19 pandemic.

The overall stress level was significantly and positively associated with some coping strategies used in the last two weeks prior to measurement. Exceptions were strategies such as planning, positive reframing, humour and religion. Such results do not necessarily mean that more frequent use of these strategies increases feelings of stress. During the COVID-19 pandemic, we are exposed to chronic stress which is different from normal conditions, and, as a result, we need to initiate some forms of coping strategies more often. As was also mentioned in Chamberelin and Green's study (2010), higher stress levels in almost every case of coping strategies do not necessarily reflect their non-adaptive nature. This may be related to increased coping efforts due to increased stress during COVID-19.

**Limitations**

Although this study provides valuable insight into relations between GSE, Hope, PP and choice and use of coping strategies during the COVID-19 pandemic, it is not without limitations.

First, due to the correlational nature of the results, we cannot determine the effect of each variable on the others. We can only determine if there is any association between them.

The study partly relies on prospective data – we asked respondents about their use of strategies from the beginning of the pandemic. It is important to consider that respondents may not have precisely remembered which strategies they used several months earlier. However, the survey also included questions about strategies used over the last two weeks before the measurement which should be more representative of the coping strategies actually used in that time period.

In the second measurement, the number of respondents was much lower than in the first one, which forced us to remove some responses. It is also possible that due to the small sample size, some relationships may be undetected or spurious.

**Study implications**

Our results confirm that coping styles do not necessarily predict coping strategies in specific crisis situations, such as the COVID-19 pandemic. Thus, the approach commonly used in studies which predicts the use of a strategy in particular circumstances based on knowledge of coping styles has its limitations, especially when dealing with a new type of situation.  Pandemic COVID-19 is just one example of this kind of circumstance in which strategies other than those typically used are desirable.

Follow-up investigations could examine what is helpful in reducing stress when dealing with a chronic stressor. In our study, PP was not associated with positive emotions, which we believe is related to the inadequacy of previously used approaches to experiencing positive emotions in a pandemic context. In this case, it may be important to focus not on reinforcing behaviours to seek positive emotions per se but to seek behaviours that are appropriate in the new context that is COVID-19.

However, higher GSE and hope appear to be associated with higher feelings of positive emotions. Thus, it may be useful as an intervention to reinforce these two beliefs during the pandemic as they prove to be a source of positive emotions.

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