Revista Argentina de Clínica Psicológica
2021, Vol. XXX, N°3, 160-168
DOI: 10.24205/03276716.2021.5018

Health-regulations to control COVID-19 in Spain: Compliance, agreement and related personal variables

Redondo I.[a], Galende N.[b], Picaza M.[c], Jaureguizar J.[d*]

Abstract

Since the COVID-19 outbreak was declared a pandemic in March 2020, it has had a tremendous effect worldwide. Various measures have been put in place to contain the spread of the virus: hand washing, social distancing and the use of face masks. The aim of this study was to assess levels of compliance and agreement with these three measures in the social context, and to analyze other personal variables (age, gender, self-control, self-efficacy and obedience to rules) that may be related to both. The measurement instruments were administered to 722 people aged between 18 and 65 years. The results revealed high levels of compliance and agreement, although scores varied in accordance with the specific measure in question. Both compliance and agreement were lower among younger people, although no differences were observed in terms of gender. Differences were found in personal variables in accordance with the four possible patterns based on different combinations of high and low compliance and agreement, with scores, being higher among young people. These results highlight the need to take personal variables into account in intervention/prevention programs. They also suggest that communication campaigns should focus on health measures in accordance with the idiosyncrasies of each age group.

Keywords: COVID-19, compliance, agreement, self-control, self-efficacy, obedience to rules, age, gender

INTRODUCTION

The WHO officially declared the COVID-19 outbreak a pandemic (Sohrabi et al., 2020) and against the backdrop of this global scenario, a number of steps have been taken worldwide to try to curb the spread of the virus. In the case of Spain, the main measures that have been implemented are the social distancing, the use of masks and frequent hand washing.

The present study aims to analyze levels of compliance with the aforementioned health measures established in Spain to curb the spread of the COVID-19 virus and levels of agreement with these measures. It also seeks to determine whether there is any relationship between these two variables (level of compliance and level of agreement), and to explore possible differences in accordance with some personal variables that havebeen mentioned in previous research studies as important in this issue.

[a] Redondo, Iratxe. Department of Developmental and Educational Psychology, Faculty of Education of Bilbao, University of the Basque Country UPV/EHU, Lejona, Spain. iratxe.redondo@ehu.eus
[b] Galende, Nuria. Department of Developmental and Educational Psychology, Faculty of Education of Bilbao, University of the Basque Country UPV/EHU, Lejona, Spain. nuria.galende@ehu.eus
[c] Picaza, Maitane. Department of Didactics and School Organization, Faculty of Education of Bilbao, University of the Basque Country UPV/EHU, Lejona, Spain. maitane.picaza@ehu.eus
[d] Jaureguizar, Joana. Corresponding author:*

LITERATURE REVIEW

The measures that have been implemented in the majority of countries to try to curb the spread of the virus are the social distancing, the use of face masks and frequent hand washing (Centers for Disease Control and Prevention, 2021). Compliance of these health measures is very important, and it is interesting to determine which variables influence people's level of compliance with the guidelines in order to adopt appropriate

preventive measures (Sobol et al., 2020). As Nofal et al. (2020) point out, the idea is that governments should carry out what is known as *persuasive mass communication*, designed to make citizens more likely to engage in compliance behaviors and to involve young people in campaigns (Efuribe et al., 2020).

Indeed, age is the variable most frequently associated with all the aforementioned factors, with young people reporting lower levels of compliance than their older counterparts (Margraf et al., 2020;

Selby et al., 2020). According to a Swiss study, adolescents and young adults have been identified internationally as a group with low compliance rates with public measures in the coronavirus scenario. However, the results of this study reveal that young adults are generally compliant with COVID-19 measures. Moreover, individuals with a higher education level and higher socioeconomic status were found to be less compliant with the rules than those with fewer resources, for a number of different reasons (Nivette et al., 2021). Coroiu et al. (2020) found that older individuals in general were more likely than younger ones to maintain a safe distance when in public and to avoid socializing in person. One possible explanation for how difficult young people seem to find it to abide by social distancing rules is that social interactions are extremely important during adolescence (Alivernini et al., 2021). One factor that may influence adolescent rule-breaking is social influence. However, social influence can also be an opportunity for fostering social adjustment, which in turn may redirect negative trajectories. Some studies also link boredom to rule-breaking and self-control, suggesting that adults with low self-control and a low boredom threshold are more likely to be non-compliant (Boylan et al., 2021; Martarelli et al., 2021; Nivette et al., 2021). Other studies have found that older individuals, identified as women, trust the government and are more likely to report adherence to COVID-19 public health guidelines (Moran et al., 2021). In accordance with this idea, most results in this field suggest that, in general terms, women adhere more than men to the guidelines established to curb the spread of the virus (Coroiu et al., 2020; Nivette et al., 2021).

Self-control has been widely studied in relation to levels of compliance with health measures. Some studies found no correlation between self-control and compliance, probably due to the fact that "preexisting control beliefs about general health conditions and self-regulatory behaviors may not effectively mitigate COVID-19 stress" (Khoo et al., 2021, p. 3). However, most research on this topic indicates that better self-control is related to greater compliance with health measures (Kokkoris & Stavrova, 2021), especially those linked to social distancing and the use of face masks (Wang et al., 2021). This can be understood in terms of another variable that has also been widely studied, namely self-efficacy (Agbaria & Mokh, 2021).

In a study carried out with 71851 participants from the USA, Mexico, Hong Kong and Taiwan, self-efficacy was found to be a good predictor of adherence to two of the measures analyzed here: hand washing and social distancing (Hsing et al., 2021). In this sense, it is important to note the effect this variable may have on the fear that a scenario such as the current pandemic can generate messages designed to incite fear in relation to an ongoing problem can lead to defensive responses if people do not have a sense of self-efficacy or control over the situation (Sobkow et al., 2020). However, the same messages can generate protective behaviors when people feel somehow efficacious, thereby "creating a path to compliance without fear" (Jørgensen et al., 2021).

The variables mentioned so far are individual in nature. But what about other variables that include not only oneself, but others also? Do they have an impact on our level of compliance with the measures? Two of the most widely studied variables in this field are empathy and perspective taking. Coroiu et al. (2020) found that empathy and prosocial behavior were associated with compliance levels, a finding replicated in Brazil by Koich et al. (2021). In another study with nearly a thousand participants from four different countries, Galang et al. (2021) found that empathic concern and perspective taking correlated positively with social distancing. But not everyone acts out of feelings such as empathy and some people's behavior is most likely prompted by other factors, such as obedience to rules or authority.

Social norms are important drivers of individual behavior (Pryor et al., 2019). According to *deterrence theory*, people comply with a norm when they perceive the expected costs of non-compliance to outweigh the benefits (Cornish & Clarke, 1986). However, social control through sanctions is sometimes inefficient and other variables also impact compliance and non-compliance. For example, correct management of how a message is communicated is fundamental for compliance (Cucchiarini et al., 2021). According to Oceja et al. (2001), the concept of *legitimacy* can be applied to the normative system and the authorities that represent it. In other words, the norm is perceived as legitimate when people feel obliged to comply with it regardless of their personal interests.

Another variable of interest is level of agreement with the health measures, as the likelihood of non-compliance would be expected to be higher among those who do not agree with the rules. In this sense, De Coninck et al. (2020) assessed citizens' attitudes towards the measures put in place by the Belgian government, in terms of whether or not they viewed them as necessary, finding that solidarity was strongly associated with more positive attitudes towards the measures.

The present study therefore aims to analyze

levels of compliance with the health measures established in Spain to curb the spread of the COVID-19 virus (hand washing, social distancing and use of face masks) and levels of agreement with these measures. It also seeks to determine whether there is any relationship between these two variables (level of compliance and level of agreement), and to explore possible differences in accordance with age, gender and other personal variables.

MATERIALS AND METHODS

Participants

The sample comprised 722 adults, 73.5% women (n = 531), 25.8% men (n = 186) and 0.7% (n = 5) of non-binary gender. All were aged between 18 and 65 years, with a mean age of 29.43 (SD = 12.73).

Most were from the Basque province of Vizcaya (69.3%, n = 500), and the rest were from the Basque provinces of Guipúzcoa (11.8%, n = 85) and Álava (6.9%, n = 50), and other provinces in Spain (12%, n = 87).

In terms of education, 49.4% of the sample (n = 357) were university graduates, 45.8% (n = 331) had high-school qualifications, 3.7% (n = 27) had secondary level qualifications and 1% (n = 7) had only primary level qualifications or no qualifications at all.

Most were single (43.8%, n = 316), 34.6% (n = 250) had a partner, 19.1% (n = 138) were married, and 2.5% (n = 18) were divorced/separated or widowed.

As for characteristics linked to the pandemic, only 7.8% (n = 56) had been diagnosed with COVID-19 during the previous months, 29.4% (n = 212) had been named a close contact of someone diagnosed with COVID-19, and 30.3% (n = 219) had self-isolated at some point (outside the general lockdown period decreed during the initial months of the pandemic).

Instruments

An ***"ad-hoc" questionnaire*** was created to collect sociodemographic data and evaluate levels of compliance and agreement with the established health regulations. To this end, participants were asked two questions. In response to the first question: “Over the past week, to what extent have you complied with the following COVID-19 prevention regulations when you were in a social context (e.g., with friends)?”, participants were asked to rate their compliance with "social distancing", "face mask use" and "hand washing" on a 4-point scale (1=not at all, 2=a little, 3=quite a lot, 4=a lot). Participants then responded to the second question: “To what extent do you agree with having to comply with these rules?”, using the 4-point same scale.

General Self-Efficacy Scale (Baessler & Schwarzer, 1996). This instrument assesses the stable feeling of personal competence to effectively handle a variety of stressful situations through 10 items (e.g., "It is easy for me to stick to my aims and accomplish my goals"). Participants are asked to rate each statement on a 4-point scale (1=not at all true, 2=hardly true, 3=moderately true, 4=exactly true). In the present study, the internal consistency was good (α = .86).

The ***10-item Self-Scoring Self-Control Scale*** (adapted from Tangney et al., 2004). This scale comprises 10 items (e.g., "I'm good at resisting temptation") that assess people's ability to override or modify prepotent responses and to interrupt undesired behavioral tendencies by refraining from acting on them. Participants are asked to rate the extent to which they feel each statement represents them on a 5-point scale (1=not at all like me, 2=a little like me, 3=somewhat like me, 4=mostly like me, 5=very much like me). In the present study, the alpha value was .55.

The ***Interpersonal Reactivity Index, IRI*** (Davis, 1980; Spanish version by Pérez-Albéniz et al., 2003). This 28-item questionnaire has four subscales or dimensions measuring different facets of empathy. Each dimension is scored on a 5-point Likert-type scale ranging from 1=does not describe me well to 5= describes me very well. Only two subscales were used in this study: the Perspective Taking (PT) subscale (7 items), which evaluates the tendency to spontaneously adopt the psychological point of view of others (e.g., “I try to look at everybody’s side of a disagreement before I make a decision”) and the Empathic Concern (EC) subscale (7 items), which contains items assessing subjects' tendency to experience feelings of compassion and concern towards others (e.g., “I often have tender, concerned feelings for people less fortunate than me”). In the present sample, the alpha value was .75.

The ***Legal cynicism scale*** (Sampson, & Bartusch, 1998). This scale measures general beliefs about the desirability of social norms and the legitimacy of established laws through 5 items (e.g., “Laws were made to be broken”). Participants are asked to state their level of agreement with each of the statements on a 5-point scale (1=strongly disagree, 2=disagree, 3=neither agree nor disagree, 4=agree, 5=strongly agree). Taken as a whole, the items reflect variation in respondents’ endorsement of acting in ways that are “outside” the law. In this study, the alpha value was .66.

Procedure

The study was approved by the Ethics Committee of the UPV/EHU (M10/2020/070). Participants were

recruited through a convenience sampling method and snowballing sampling techniques. Potential participants were contacted by e-mail and cell phone and through the social media between October 10 and November 30, 2020 and asked to complete an online questionnaire. The study aims and procedure were explained at the beginning of the questionnaire and all respondents were asked for their consent before participating. Moreover, all the requirements established by Organic Law 15/99 on Personal Data Protection were met.

The data were analyzed using IBM SPSS Statistics for Windows, Version 25.0 (Armonk, NY, USA). First, the frequencies and percentages of the sociodemographic variables were calculated. Next, two analyses of variance (ANOVAs) were performed to determine whether gender and age (or their interaction) had a significant effect on levels of compliance and agreement with established health regulations. Finally, several ANOVAS were performed to test whether combinations of high and low levels of compliance and agreement were associated with self-efficacy, self-control, empathy and legal cynicism, respectively.

RESULTS

Levels of compliance and agreement with health measures

In relation to the descriptive data on levels of compliance with the established health measures when with friends, 36.8% (n = 266) of the sample claimed to comply "quite a lot" or "a lot" with the rule referring to social distancing. In relation to face mask use, compliance was greater, with 78.9% (n = 570) of participants selecting one of the two highest compliance levels. Likewise, 67.5% (n = 487) of the sample claimed to comply "quite a lot" or "a lot" with the hand washing rule.

In relation to agreement with the established rules, 80.5% (n = 581) of participants said they agreed "quite a lot" or "a lot" with the regulation on social distancing, 86.6% (n = 625) chose one of the same two options in relation to face mask use and 93.6% (n = 676) did so in connection with hand washing.

Levels of compliance and agreement by gender and age

To test whether gender and/or age influenced compliance with established measures when with friends, an ANOVA (2x2 model) was performed with gender (female *vs* male) x age (18-30 years *vs* >30 years) and level of compliance as the dependent variable. The results revealed a significant value for age [$F(1, 713)=120.25$; $p< .001$)] but not for gender [$F(1, 713)=2.076$; $p=.150$)], and no interaction effects were observed [$F(1, 713)= .002$; $p=.960$)] (see Figure 1). In terms of age, higher levels of compliance were observed in the over 30 group ($M=9.62$, $SD=1.94$) than in the younger group ($M=7.73$, $SD=1.91$).

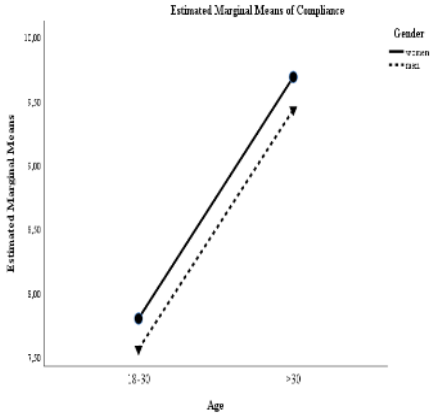

Figure 1: **Levels of compliance with health regulations by gender and age**

To test the possible effects of gender and age on levels of agreement with the established health regulations, a 2 (gender: female *vs* male) x 2 (age: 18-30 years *vs* >30 years) ANOVA was performed. As in the previous case, only age was found to have a significant value [$F(1, 712)=25.65$; $p< .001$)], with higher levels of agreement being observed among those aged >30 years ($M=10.6$, $SD=1.64$) than among their younger counterparts ($M=9.94$, $SD=1.77$) (see Figure 2).

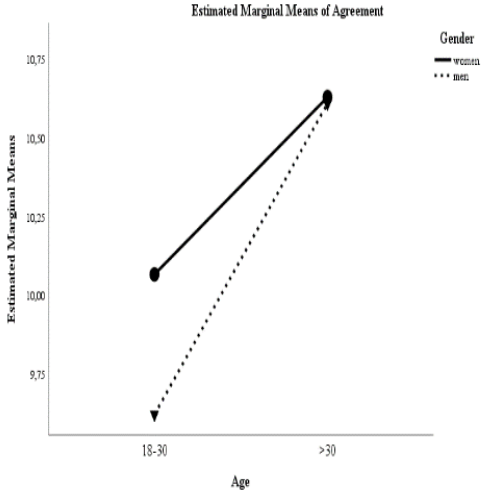

Figure 2: **Levels of agreement with health regulations by gender and age**

Differences **in compliance and agreement with health regulations in accordance with personal characteristics**

First, participants were divided into four categories depending on their levels of compliance and agreement (high and low) with the COVID prevention measures (see Table 1).

Table 1. ***Descriptive statistics of levels of compliance and agreement with health regulations***

	Social distancing n (%)	Face mask use n (%)	Hand washing n (%)
Low compliance and Low agreement	131 (18.1%)	43 (6%)	38 (5.3%)
Low compliance and High agreement	325 (45%)	109 (15.1%)	196 (27.2%)
High compliance and Low agreement	10 (1.4%)	54 (7.5%)	7 (1%)
High compliance and High agreement	256 (35.5%)	516 (71.5%)	480 (66.6%)
Total	722 (100%)	722 (100%)	721 (100%)

Next, differences in participants' self-perceived self-efficacy, self-control, empathy and obedience to rules were explored in accordance with their age (18-30 years and > 30 years) and levels of compliance and agreement with established health regulations.

In the 18-30 age group, significant differences were observed in self-control [F (3, 463) = 5.27, p = .001], empathy- Perspective Taking [F (3, 463) = 3.85, p = .01] and obedience to rules [F (3, 463) = 7.95, $p \leq .001$] in accordance with levels of compliance and agreement with the social distancing measure. Bonferroni-corrected post-hoc pairwise comparisons indicated that those with high compliance and high agreement with the social distancing regulation scored higher in self-control, empathy-perspective taking and obedience to rules than both those with low compliance and low agreement and those with low compliance and high agreement.

In the over 30 age group, no differences were observed in self-control, self-efficacy, empathy or obedience to rules in accordance with levels of compliance and agreement with the social distancing measure.

Concerning face mask use, in the 18-30 age group, differences were observed in obedience to rules [F (3, 463) = 3.36, p = .019], with those with high compliance and high agreement scoring higher for obedience to rules than those with low compliance and low agreement. Similarly, in the older age group (> 30 years), the only variable for which significant differences were observed in accordance with levels of compliance and agreement was again obedience to rules [F (3, 251) = 3.56, p = .015], with those with high compliance and low agreement scoring higher than those with high compliance and high agreement.

Lastly, in relation to the hand washing rule, no differences were observed in self-control, self-efficacy, empathy or obedience to rules in either age group (18-30 years and older than 30 years) in accordance with compliance and agreement levels.

CONCLUSIONS

The results of this study reveal high levels of agreement with established regulations. Although we usually tend to focus more on those who break the rules, since they are the ones deemed to harm society as a whole, the fact is that, as previous studies (Selby et al., 2020) have reported, compliance levels are generally fairly high. It therefore seems that, fortunately, our pessimistic view does not always correspond with reality (Raude et al., 2020). In relation to compliance with the different health measures, it should be noted that while compliance is high for face mask use and hand washing, it drops markedly when it comes to social distance (Hsing et al., 2021).

The analysis of different social groups revealed no differences in compliance between men and women, although it should be noted as a limitation of the study that women were over-represented in our sample. Differences were found, however, between the two age groups in terms of level of compliance, with the over 30s complying significantly more with the regulations than their younger counterparts. This is consistent with that reported by previous studies (Margraf et al., 2020; Selby et al., 2020). This may be explained by the fact that compliance with some of these rules, particularly social distancing, may be particularly difficult during stages such as adolescence and young adulthood, when people have a stronger need for social interactions (Alivernini et al., 2021). Also, the fact that a certain degree of normality has been regained in some areas (work, public transport, etc.), and we can even see crowds in the metro, may lead young people to view social distancing rules and limits on social gatherings as being particularly unfair to them.

As for levels of agreement with the health regulations, the results are also interesting. While agreement with these measures is generally high, if we examine this variable in more detail, we see that there is a percentage of people who do not comply with the established regulations because they do not agree with them. In this respect, it would be advisable to reorient information campaigns towards what Nofal et al. (2020) call "persuasive mass communication", with a view to increasing agreement rates and controlling the spread of the virus more effectively. In other words, the goal would be to increase people's level of agreement with health measures. As mentioned earlier, this could be

achieved, for example, by making young people feel more involved in campaigns, or by conveying the messages through experts or scientists, since this appears to render them more credible than when they are transmitted by politicians, who are often viewed as being driven by political or personal interests. A more complex case is that of people who do not comply with the measures despite agreeing with them. This behavior may be explained by psychological variables such as self-control or self-efficacy, suggesting that programs designed to enhance these variables would be the best means of ensuring compliance, especially among younger generations, this is important not only due to the current situation, but also because it is likely that we will face new pandemics in the future, and anything that can be done to improve prevention may be of inestimable value.

In the 18-30 age group, it is striking that those with low compliance scored lower for self-control, empathy-perspective taking and obedience to rules, even when they scored high for agreement. This was not the case in the older age group, a finding which may be explained by the idiosyncratic characteristics of younger people, for whom social interactions are particularly relevant (Alivernini et al., 2021) and social pressure is very strong ("if others do not comply with the rule, neither do I, even though I know I am not doing the right thing").

Another interesting finding was that those in the over 30 age group with high compliance in terms of face mask use but low agreement with this regulation, scored higher for obedience to rules than those with both high compliance and high agreement. This result could be interpreted as follows: "if, despite not agreeing with the rule, I have a high level of compliance, it must be because it is clear to me that the rule must be obeyed". Interestingly, this result was only found in the older group, perhaps because obedience to rules and sense of community tend to grow stronger with age.

It is important to note that, contrary to appearances, most young people do comply with the established measures. This message needs to be conveyed to society so that it stops constantly blaming them, as, in addition to being unfair, this attitude may also be counterproductive. Instead, it would be much more effective to involve young people in the search for alternatives and solutions (Efuribe et al., 2010), in addition to focusing efforts on improving the factors that may hinder compliance (even if only in a few cases). Furthermore, given that socialization is such a relevant factor at this age, offering alternatives for social interaction is essential (Alivernini et al., 2021).

In summary, based on the data obtained, some of the implications or conclusions that can be drawn from the study are the following: On the one hand, preventive policies or social campaigns on Covid-19 should focus above all on the "social distance" rule, as it is the most problematic in all age groups, given that it is the one with the lowest level of agreement and compliance in general. This is especially complicated in Mediterranean countries such as ours, where social life and relationships with others are highly valued and culturally embedded (Gualda et al., 2021). Furthermore, there are still doubts about the best way to strengthen this rule (hard-hitting publicity, people´s testimonials, punishments for non-compliance...). Some studies show that effective communication by national governments and authorities, which provides transparent, clear and credible information on the seriousness of the threat, the purpose and the effectiveness of the required actions are good strategies (Cismaru et al., 2011; Patchen, 2006; Siegrist & Zingg, 2014).

On the other hand, adolescents and young people, are the least compliant with the measures. Some studies have shown that interventions targeting them are more likely to elicit behaviour change when their autonomy is respected and what they value is taken into account (Yeager, 2018). In the current pandemic, these have been implemented by adults (teachers, parents, police, etc.). One possible approach to improve their effectiveness, would be to empower them to develop their own campaigns, focusing on changing peer attitudes around the importance of social distancing. Given the current restrictions and the rise of social media at this age, encouraging them to post online content (videos, photos...) about how they are following the rules could be a very effective way to promote social distancing behaviours among their friends (Andrews et al., 2020).

Finally, the preset study points out some variables (self-control, empathy, obedience to authority), which could be a possible focus of intervention in the long term as a preventive strategy. In this sense, there are different ways to develop them, for example, self-control can be strengthened with practices such as delay gratification (Hagger et al., 2010); news report and message framing could affect how people evaluate the risk of an incident or situation (Agha, 2003) or emphasizing relations with the elderly may raise awareness and improve empathic attitudes towards them (Rieger, 2020). However, it is difficult to resort to them in an emergency situation such as the one in which we are currently involved.

To conclude, it is important to point out some of

the study's limitations, as well as aspects to be taken into account in future research. The first limitation refers to the sampling, because a large part of the sample came from a specific area of Spain. Future studies should strive to recruit larger samples from different countries in order to enable cross-cultural comparisons and help to clarify, for example, whether the level of compliance and agreement with the measures or their association with gender, age or personal characteristics studied is maintained or not in other contexts. Secondly, the online response format used in this study may have introduced a bias in terms of representativeness, as those who are more interested in or concerned about the progress of the pandemic may have been more likely to participate. In this sense, it would be desirable for future studies to carry out a stratified and representative sampling of the population to be evaluated, and that participants give their responses under the control of those guiding the study. This would for example help, to make the sample more representative in terms of gender, which is not very well balanced in the present study. Likewise, the use of self-report instruments may have led to social desirability bias in the responses given. Hence, combining this type of studies with others involving observation, interviews, focus groups or responses from significant others about participants' behaviour could be of interest.

In addition to this, another important focus for future research would be to further investigate all these behaviours and personal characteristics´ as the course of the epidemic changes and as behavioral guidelines evolve.

Despite these limitations, however, the study makes a substantial contribution to our knowledge of the factors that influence compliance with COVID-19 regulations, providing greater insight into these behaviors that may help guide preventive actions or policies. Not only will this undoubtedly serve to defeat this pandemic, it will also enable us to respond better to future social emergencies.

Declaration of competing interest

None.

REFERENCES

[1] Agbaria, Q. & Mokh, A. A. (2021). Personal and social resources in coping with coronavirus crisis among Israeli-Palestinian adults: Explanatory study. *International Journal of Mental Health and Addiction*, 1-16. https://doi.org/10.1007/s11469-020-00465-z

[2] Agha, S. (2003). The impact of a mass media campaign on personal risk perception, perceived self-efficacy and on other behavioural predictors. *AIDS care, 15*(6), 749-762.

[3] Alivernini, F., Manganelli, S., Girelli, L., Cozzolino, M., Lucidi, F., & Cavicchiolo, E. (2021). Physical distancing behavior: The role of emotions, personality, motivations, and moral decision-making. *Journal of Pediatric Psychology, 46*(1), 15-26. https://doi.org/10.1093/jpepsy/jsaa122

[4] Andrews, J. L., Foulkes, L., & Blakemore, S. J. (2020). Peer influence in adolescence: Public-health implications for COVID-19. *Trends in Cognitive Sciences, 24*(8), 585-587.

[5] Baessler, J., & Schwarzer, R. (1996). Evaluación de la autoeficacia: Adaptación española de la escala de Autoeficacia General [Assessment of self-efficacy: Spanish adaptation of the General Self-Efficacy scale]. *Ansiedad y Estrés, 2*(1), 1-8.

[6] Boylan, J., Seli, P., Scholer, A., & Danckert, J. (2021). Boredom in the Covid-19 pandemic: Trait boredom proneness, the desire to act, and rule-breaking. *Personality and Individual Differences, 171,* 110387 https://doi.org/10.1016/j.paid.2020.110387

[7] Centers for Disease Control and Prevention (2021). *How to protect yourself and others*. https://www.cdc.gov/coronavirus/2019-ncov/prevent-getting-sick/prevention.html

[8] Cismaru, M., Cismaru, R., Ono, T., & Nelson K. (2011). "Act on climate change": an application of protection motivation theory. *Social Marketing Quarterly, 17*(3), 62–84.

[9] Cornish, D. B., & Clarke, R. V. (1986). *The reasoning criminal: Rational choice perspectives on offending*. Routledge.

[10] Coroiu, A., Moran, C., Campbell, T., & Geller, A. C. (2020). Barriers and facilitators of adherence to social distancing recommendations during COVID-19 among a large international sample of adults. *PLOS ONE, 15*(10), e0239795. https://doi.org/ 10.1371/journal.pone.0239795

[11] Cucchiarini, V., Caravona, L., Macchi, L., Perlino, F., & Viale, R. (2021). Behavioral Changes after the COVID-19 Lockdown in Italy. *Frontiers in Psychology, 12*, 1-24. https://doi.org/10.3389/fpsyg.2021.617315

[12] Davis, M.H. (1980). A multidimensional approach to individual differences in empathy. *Journal of Personality and Social Psychology, 10*(85), 1-17.

[13] De Coninck, D., d'Haenens, L., & Matthijs, K. (2020). Perceived vulnerability to disease and attitudes towards public health measures: COVID-19 in Flanders, Belgium. *Personality and Individual Differences, 166*, 110220. https://doi.org/10.1016/j.paid.2020.110220

[14] Efuribe, C., Barre-Hemingway, M., Vaghefi, E., & Ballonoff Suleiman, A. (2020). Coping with the COVID-

19 crisis: A call for youth engagement and the inclusion of young people in matters that affect their lives. *Journal of Adolescent Health, 67*(1)*,* 16-17. https://dx.doi.org/10.1016%2Fj.jadohealth.2020.04.009

[15] Galang, C. M., Johnson, D., & Obhi, S. (2021). Exploring the relationship between empathy, self-construal style, and self-reported social distancing tendencies during the COVID-19 pandemic. *Frontiers in Psychology, 12,* 588934. https://doi.org/10.3389/fpsyg.2021.588934

[16] Gualda, E., Krouwel, A., Palacios-Gálvez, M., Morales-Marente, E., Rodríguez-Pascual, I., & García-Navarro, E. B. (2021). Social Distancing and COVID-19: Factors Associated With Compliance With Social Distancing Norms in Spain. *Frontiers in Psychology, 12*: 727225. doi: 10.3389/fpsyg.2021.727225

[17] Gutierrez, Ó., Bariego, P., & Gago, V. (2020). Cumplimiento del confinamiento por COVID-19 en España: una aproximación [Confinement compliance by COVID-19 in Spain: an approximation]. In R. Rabazo, & A. Romero (coord.), *Pensamientos sociales desde la nueva realidad [Social thinking from the new reality]*. AnthropiQa 2.0.

[18] Hagger, M. S., Wood, C. W., Stiff, C., & Chatzisarantis, N. L. (2010). Self-regulation and self-control in exercise: The strength-energy model. *International Review of Sport and Exercise Psychology, 3*(1), 62-86.

[19] Hsing, J., et al. (2021). Influence of health beliefs on adherence to COVID-19 preventative practices: International, social media-based survey study. *Journal of Medical Internet Research, 23*(2), e23720. https://doi.org/10.2196/23720

[20] Jørgensen, F., Bor, A., & Ban Petersen, M. (2021). Compliance without fear: Invididual-level protective behaviour during the first wave of the COVID-19 pandemic. *British Journal of Health Psychology, 26*(2), 679-696. https://doi.org/10.1111/bjhp.12519

[21] Khoo, S. S., Toh, W. X., & Yang, H. (2021). Seeking control during uncontrollable times: Control abilities and religiosity predict stress during COVID-19. *Personality and Individual Differences, 175,* 110675. https://doi.org/10.1016/j.paid.2021.110675

[22] Koich, F., Magarotto, G., Pianowski, G., & De Francisco, L. (2021). Compliance with containment measures to the COVID-19 pandemic over time: Do antisocial traits matter? *Personality and Individual Differences, 168,* 110346. https://doi.org/10.1016/j.paid.2020.110346

[23] Kokkoris, M., & Stavrova, O. (2021). Staying on track in turbulent times: Trait self-control and goal pursuit during self-quarantine. *Personality and Individual Differences, 170*, 110454. https://doi.org/10.1016/j.paid.2020.110454

[24] Margraf, J., Brailovskaia, J., & Schneider, S. (2020). Behavioral measures to fight COVID-19: An 8-country study of perceived usefulness, adherence and their predictors. *Plos ONE, 15*(12), e0243523. https://doi.org/10.1371/journal. pone.0243523

[25] Martarelli, CS., Pacozzi, SG., Bieleke, M., & Wolf, W. (2021). High Trait Self-Control and Low Boredom Proneness Help COVID-19 Homeschoolers. *Frontiers in Psychology, 12*, 594256 https://doi.org/10.3389/fpsyg.2021.594256

[26] Moran, CH., Campbell, D., Campbell, T., Roach, P., Bourassa, L., Collins, Z., Stasiewicz, M., & McLane, P. (2021). Predictors of attitudes and adherence to COVID-19 public health guidelines in Western countries: a rapid review of the emerging literature. *Journal of Public Health*, 1-15. https://doi.org/10.1093/pubmed/fdab070

[27] Nivette, A., Ribeaud, D., Murray, A., Steinhoff, A., Bechtiger, L., Hepp, U., Shanahan, L., & Eisner, M. (2021). Non-compliance with COVID-19-related public health measures among Young adults in Switzerland: Insights from a longitudinal cohort study. *Social Science & Medicine*, *268*, 113370. https://doi.org/10.1016/j.socscimed.2020.113370

[28] Nofal, A. M., Cacciotti, G., & Lee, N. (2020). Who complies with COVID-19 transmission mitigation behavioral guidelines? *PLoS ONE, 15*(10), e0240396. https://doi.org/10.1371/journal

[29] Oceja, L., Fernández-Dols, J.M., González, A., Jiménez, I., & Berenguer, J. (2001). ¿Por qué cumplimos las normas? Un análisis psicosocial del concepto de legitimidad [Why do we comply with rules? A Psychosocial Analysis of the Concept of Legitimacy]. *Revista de Psicología Social, 16*(1), 21-41. http://dx.doi.org/10.1174/021347401317351189

[30] Oosterhoff, B., Palmer, C. A., Wilson, J., & Shook, N. (2020). Adolescents´ motivations to engage in social distancing during the COVID-19 pandemic: Associations with mental and social health. *Journal of Adolescent Health, 67*(2)*,* 179-185. https://dx.doi.org/10.1016%2Fj.jadohealth.2020.05.004

[31] Patchen M. (2006). *Public attitudes and behavior about climate change—What shapes them and how to influence them*. *PCCRC Outreach Publication*. https://ag.purdue.edu/climate/

[32] Pérez-Albéniz, A., De Paúl, J., Etxeberría, J., Montes, M. P., & Torres, E. (2003). Spanish adaptation of the Interpersonal Reactivity Index. *Psicothema*, *15*(2), 267-272.

[33] Pryor, C., Perfors, A., & Howe, P.D.L. (2019). Even arbitrary norms influence moral decision-

making. *Nature Human Behavior, 3*, 57–62. https://www.nature.com/articles/s41562-018-0489-y

[34] Raude, J., Lecrique, J. M., Lasbeur, L., Leon, C., Guignard, R., du Roscoät, E., & Arwidson, P. (2020). Determinants of preventive behaviors in response to the COVID-19 pandemic in France: Comparing the sociocultural, psychosocial, and cognitive explanations. *Frontiers in Psychology, 11,* 584500. https://doi.org/10.3389/fpsyg.2020.584500

[35] Rieger, M. O. (2020). What makes young people think positively about social distancing during the corona crisis in Germany? *Frontiers in Sociology, 5,* 61.

[36] Sampson, R. J., & Bartusch, D. J. (1998). Legal cynicism and (subcultural?) tolerance of deviance: The neighborhood context of racial differences. *Law and Society Review*, *32*(4), 777-804. https://doi.org/10.2307/827739

[37] Selby, K., et al. (2020). Citizen responses to government restrictions in Switzerland during the COVID-19 pandemic: Cross-sectional survey. *JMIR Formative Research, 4*(12), e20871. https://doi.org/10.2196/20871

[38] Siegrist, M., & Zingg, A. (2014). The role of public trust during pandemics: Implications for crisis communication. *European Psychologist, 19*(1), 23–32.

[39] Sobkow, A., Zaleskiewicz, T., Petrova, D., García-Retamero, R., & Traczyk, J. (2020). Worry, risk perception, and controllability predict intentions toward COVID-19 preventive behaviors. *Frontiers in Psychology, 11,* 582720. https://doi.org/10.3389/fpsyg.2020.582720

[40] Sobol, M., Blachnio, A., & Przepiórka, A. (2020). Time of pandemic: Temporal perspectives related to compliance with public health regulations concerning the COVID-19 pandemic. *Social Science & Medicine, 265,* 113408. https://doi.org/10.1016/j.socscimed.2020.113408

[41] Sohrabi, C., Alsafi, Z., O'Neill, N., Khan, M., Kerwan, A., Al-Jabir, A., Iosifidis, C., & Agha, R. (2020). World Health Organization declares global emergency: A review of the 2019 novel coronavirus (COVID-19). *International journal of surgery (London, England), 76*, 71–76. https://doi.org/10.1016/j.ijsu.2020.02.034

[42] Tangney, J. P., Baumeister, R. F., & Boone, A. L. (2004). High self-control predicts good adjustment, less pathology, better grades, and interpersonal success. *Journal of Personality*, *72*(2), 271-324. https://doi.org/10.1111/j.0022-3506.2004.00263.x

[43] Wang, D., Marmo-Roman, S., Krase, K., & Phanord, L. (2021). Compliance with preventative measures during the COVID-19 pandemic in the USA and Canada: Results from an online survey. *Social Work in Health Care, 6,* 1-16. https://doi.org/10.1080/00981389.2020.1871157

[44] Yeager D.S. (2018). Why interventions to influence adolescent behavior often fail but could succeed. *Perspectives on Psychological Sciences, 13,* 101–122.