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Anxiety, resilience and local conditions: A cross-cultural investigation in the time of Covid-19

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The spread of Covid-19 is a worldwide phenomenon, unprecedented in modern times. Differences among countries in such matters are of interest as they provide a unique window to understand human behaviour and culture. The aim of this study is to examine cross-cultural differences in state anxiety, and any moderating role of resilience and social contact. Participants from three countries were recruited: Ireland ($n = 449$), Italy ($n = 324$) and Spain ($n = 471$). While these countries share many characteristics, it was anticipated that their experiences might differ because of pronounced differences in governmental measures and the local severity and history of the pandemic at the time of data collection. Results indicated that: (a) Resilience was negatively related to state anxiety both bivariately and multivariately; (b) number of hours outside per week did not predict state anxiety but was negatively correlated with fear of contagious diseases in the essential workers from the Irish sample; (c) national measures had a moderating role in the relationship between resilience and state anxiety; and (d) social contact, in terms of numbers of written, audio or visual interactions, was not a statistically significant predictor of state anxiety. These results may help to understand the adverse impact on mental health.

Keywords: Covid-19; State anxiety; Social contact; Resilience; Local conditions; Cross-cultural.

On 31 December 2019, Chinese authorities reported to the World Health Organisation (WHO) the existence of a cluster of pneumonia cases of unknown cause. The WHO announced, in early January, that a novel coronavirus might be behind this new infectious disease—now known as Covid-19 (from coronavirus disease 2019)—which was spreading in China. Throughout January, cases began to emerge in countries outside of China, and by February there were increasing numbers of cases in many countries across the globe—a trend which continued into March and beyond. At the time of writing (6 August 2020), there have been over 18,000,000 confirmed cases globally, with a reported death toll of over 700,000 (European Centre for Disease Prevention and Control, 2020).

The response of researchers, states and international bodies has of course been to focus on the biomedical aspect of this novel disease. Research on modes of transmission, identification of vulnerable groups, protective factors, development of treatments and vaccines have predominated. There is, however, an increasing awareness of the psychological aspects of the pandemic—for example, the Royal College of Psychiatrists' (2020) report of an increase in urgent cases, and their prediction of a "tsunami" of referrals arising from people not engaging with the services at this time. This being the case, research has begun to focus on this area.

A psychological dimension which one might expect to be impacted by the pandemic is state anxiety—a form of anxiety characterised by apprehension, tension, nervousness and worry and which increases in response to stress (Spielberger, 1977). In the context of the digital era, with constant access to news updates, it is not surprising

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that this pandemic has been accompanied by anxieties related to uncertainty about the future, susceptibility to infection, addictive social media use and even conspiracies (Brailovskaia & Margraf, 2021; Kanadiya & Sallar, 2011). Natural disasters like this pandemic can cause people's lives to be heavily altered by not being able to socialise as normal, as well as by losing contact with relatives. In addition, during this pandemic many people have been exposed to death at close quarters, whether it be the loss of a family member, a neighbour or an acquaintance. This can have a psychological impact, including on children who may not understand what has happened to the deceased, or on health workers suffering from post-traumatic stress disorders (Greenberg et al., 2020).

Literature has described how the current Covid-19 situation can be perceived as a heavy burden (Brailovskaia & Margraf, 2020). The transactional model of stress (Lazarus & Folkman, 1987) tells us that there are two levels of appraisal which are involved in the emergence of stress from an experience—primary appraisal and secondary appraisal. Primary appraisal involves assessing whether a circumstance represents a threat, a loss, or a challenge—if the situation is interpreted in this way, then stress is a possible outcome. Secondary appraisal is the process whereby we consider the stressor in relation to our ability to deal with it—if we feel that the situation may be beyond our capacity to respond, then stress will be the outcome. When we consider the suddenness of the onset of the Covid-19 pandemic, the increasing number of cases, the increasing death toll and the strict restrictions imposed in many countries, it is perfectly plausible that stress and state anxiety would result. Considering the possibility that it may be some time before a definitive vaccine and/or treatment becomes widely available, as well as there may be successive waves of infection and social restriction, it is important to examine what factors might predispose to or protect against the emergence of state anxiety.

One likely protective factor is resilience, which can be considered an indicator of mental health and well-being (Moret-Tatay et al., 2015). It is defined as the ability of a person exposed to negative events to remain healthy and to cope adaptively with life's challenges (Gloria & Steinhardt, 2016), and particularly with anxiety (Brailovskaia et al., 2018). However, it is not possible to summarise this term by only one specific paradigm. It should be noted that rather than simply an ability, it is also understood as a personality trait that people possess and not as a state that may appear at a given time (Rolin et al., 2018). Even if the definition of resilience might be considered a complex one, the literature seems to support the idea that, during periods of trauma, resilient people display adaptive behaviours related to variables such as morale, socialisation, somatisation, and symptoms of hopelessness, among others.

In the current study two zones in Europe, which markedly differed in the severity of the pandemic and in the strength of the measures employed to curb Covid-19, were selected. By 15 May 2020, the total number of confirmed cases in Ireland was 23,900 (485.6 cases per 100,000), and the total number of deaths was 1518 (30.8 per 100,000) (Central Statistics Office of Ireland, 2020). Italy was one of the first countries in Europe to adopt restriction measures and lockdown. But at the middle of April, the Italian government started relaxing restrictions. At the time the data for this study were gathered, the confinement of populations was required with some similar measures to Ireland, but with a history of far sharper restrictions. According to Istat (2020), the total number of cases from January to May was 232,639 (384.77 cases per 100,000), and the total number of deaths was 32.981 (54.54 cases per 100,000). In Spain, restriction measures were similar to Italy, but there had been a local toughening of measures with outdoor exercise recently largely prohibited. According to the report on 15 May 2020 by the Spanish Ministry of Health (2020), the situation in Spain was like the one in Italy, with 230,183 cases (492.29 cases per 100,000), and 27,459 deaths (58.72 cases per 100,000). Death rates linked to Covid-19 were considerably higher in Italy and Spain than in Ireland, and while current infection rates were quite similar, they had been higher in Italy and Spain for some time. Table 1 depicts when measures were put in place across countries.

These three countries were selected due their similarities but also because of their very marked differences in the severity and duration of the outbreak, which has obvious implications for stress and state anxiety when we consider the transactional model. Moreover, their comparison might shed light on the relationship that has been reported in the previous literature between resilience and anxiety (Quintiliani et al., 2021). While numbers of infections and deaths are important, social restrictions introduced to curb spread of the virus are also likely to

TABLE 1
A comparison on lockdown measures (Adapted from POLITICO research, Frontex [The Oxford COVID-19 Government Response Tracker] and Wikipedia on 11 August 2020)

Country	*Events suspended*	*All schools closed*	*Non-essential shops closed*	*Non-essential movement banned*
Ireland	17 March	12 March	24 March	27 March—*Except walks with children, pets and exercise*
Italy	5 March	5 March	10 March	10 March—*Except taking a dog or specific groups and exercise*
Spain	10 March	10 March	15 March	15 March—*Except taking a dog or specific groups*

have impacted stress and anxiety. The limits on meeting with others reduced people's capacity to mobilise social support. Social support has been shown to be an important contributor to well-being in many different populations and in many different circumstances—for example, systematic reviews and meta-analyses have found an association between social support and well-being in adolescents (Chu et al., 2010), Chinese older adults (Chen et al., 2012), and among those bereaved by sudden or violent death (Scott et al., 2020). Social support has been proposed to have a direct effect on well-being, but also to have a particularly important role to play at times of greater stress (Alnazly et al., 2021)—the stress-buffering approach (Cohen & Wills, 1985), which might be particularly relevant at such a time as a pandemic.

While social restrictions are likely to be an important predictor of state anxiety, it is possible that this relationship will be moderated by social norms. Eurostat (2017) reported that in 2015, Spain and Italy had somewhat higher rates of getting together with family than did Ireland, while Spain had higher levels of getting together with friends than did Italy and Ireland. It may be that the very strict social restrictions in Spain and Italy cut across the normative patterns of high social engagement in those countries, while Ireland was less impacted. Considering the stress-buffering role of social support it is possible that anxiety could have increased in Spain and Italy, at a time when there were increased external stressors and limited access to a key source of support.

The current study seeks to examine differences in the levels of state anxiety across Ireland, Spain and Italy at the time of maximum social restrictions and greatest severity of the pandemic. For the reasons outlined above it is expected the situation in Spain and Italy to be more traumatic than Ireland. Therefore, resilience and social support would be more important moderators in those countries. In addition, the normative patterns of social engagement would mean social contact would be more important in Spain/Italy.

METHOD

Participants

The sample for this study consisted of 1144 people—449 from Ireland, 324 from Italy and 471 from Spain. A total of 70.4% of respondents reported being female, with this proportion ranging from 68.7% in the Spanish sample to 70.4% in the Irish. The mean age was 30.64 years (SD = 12.51), with mean ages across countries ranging from 29.24 in Ireland to 32.59 in Spain. With regards to studies, 77.3% of the participants reported secondary school completion and 22.7% higher or further education in the Irish sample. For the Italian sample, 0.3% reported no formal education, 0.3% completed primary school, 37.7% secondary school and 61.7% reported higher or further education. Lastly, in the Spanish sample, 0.8% reported no formal education, 0.5% completed primary school, 19.4% completed primary school, 48.2% secondary school and 31% reported higher or further education.

Inclusion criteria were as follows: (a) the participants had to be over 18 years old, and (b) be a resident of one of the three selected countries.

Procedure

After the determination for sample sizes though GPower software (Faul et al., 2009), data were collected online through and online survey hosted on the Qualtrics platform, the link to which was distributed through emails, blogs and social media. Moreover, an open invitation to share the link was used in these mediums, facilitating snowball sampling. This study was approved by the ethics committee of the School of Applied Psychology of the University College Cork on 6 April 2020, following ethical standards as laid down in the 1964 Declaration of Helsinki and its later amendments or comparable ethical standards.

Materials

Sociodemographic data, questions developed to address aspects of the Covid-19 outbreak, and psychometric scales were employed for the current research, including:

(1) Several questions related to the Covid-19 outbreak were developed for the purposes of the current study. These questions included items addressing fear of infectious disease, attitudes to self-quarantine, worries about economic impact and perception of own level of knowledge of the disease. All items were answered on a scale of 1 to 10. Other questions were related to sources of information, number of hours outside the home per week during the restrictions, and extent to which social contact was maintained with people outside of the home. These items were:

   (i) *I fear people with contagious diseases*.
   (ii) *I think my sense of belonging to Italy/Ireland/Spain has increased since the outbreak began*.
   (iii) *I am concerned about the economic impact that this pandemic may have in my country*.
   (iv) *I consider that I have correctly informed myself about Covid-19*.
   (v) *Self-quarantine is necessary for the good of others*.
   (vi) *To what extend have you been maintaining social contact with people outside the home in written form (e.g. email)?*

(vii) *To what extend have you been maintaining social contact with people outside the home in audio form (e.g. by telephone)?*
(viii) *To what extend have you been maintaining social contact with people outside the home in visual form (e.g. Skype, Zoom)?*

(2) The Brief Resilient Coping Scale (BRCS; Sinclair & Wallston, 2004) was employed. This scale measures optimism, creativity, perseverance and growth at times of adversity. BRCS is a validated tool for measuring resilience with appropriate levels of validity and reliability. The original scale consists of four items and a single factor or dimension, with an internal consistency index of $\alpha = .69$ and a test–retest reliability of .71 ($n = 87$, $p < .001$). The Spanish and Italian adaptations were employed, in addition to the English-language original version (Moret-Tatay et al., 2015; Murphy et al., 2021). Cronbach's alpha coefficient for the Irish sample was .63, for the Italian .69 and the Spanish .58. However, one should bear in mind that in this analysis all age groups are included, so biases might occur in internal consistency. Particularly a systematic review suggested that validity of this metrics in older populations, should be revisited in older adults (Cosco et al., 2016). Other potential explanations are provided in the last section.
(3) The State-Trait Anxiety Inventory (Spielberger, 1977) is a psychological inventory with 40 questions on a 4-point Likert-type scale and measures two types of anxiety—state and trait. The state anxiety measure is designed to measure anxiety in the here and now, rather than as an abiding trait. For the purposes of the current study, the instructions for participants were amended to specify anxiety levels "right now, that is, at this moment of the Covid-19 outbreak." The state anxiety subscale consists of 20 items, each scored on a zero to three scale. Total scores range from a minimum of zero to a maximum of 60, with higher scores indicating greater state anxiety. Internal consistency coefficients for the scale have ranged from .86 to .95; test–retest reliability coefficients have ranged from .65 to .75. It was adapted to Spanish by Virella et al. (1994) and to Italian by Lazzari and Pancheri (1980). Cronbach's alpha coefficient on State anxiety for the Irish sample was .95, for the Italian .93 and the Spanish .50, while Cronbach's alpha coefficient on Trait anxiety for the Irish sample was .94, for the Italian .85 and the Spanish .61. As mentioned before, all age groups are included in this analysis.

Design and analysis

The software SPSS version 23 (IBM) was employed. The current study was a cross-cultural study conducted on an incidental sample. We imputed missing values through the SPSS method for multiple imputations to produce a new data set without missing data. First, descriptive data were generated. Normality and homogeneity analyses of data were conducted, prior to the analyses. One-way analysis of variance (ANOVA), *t* test analysis, as well as the Mann Whitney *U* test were employed to address differences across subsamples and variables of interest. Second, a correlational analysis was carried out, and a linear regression analysis in the prediction of STAI-S was performed. Data were standardised before the moderation analysis, which was carried out using the Process macro for SPSS (Hayes, 2015). Model 1 for Process was employed to test the hypothesis that country would moderate the relation between resilience and state anxiety. In this way, regression-based procedures were executed employing bootstrapping procedures using 10,000 samples. The conditional effect of BRCS score on STAI-S score at values of the moderator were examined, as well as its effects, statistical significance and lower and upper confidence levels.

RESULTS

First, descriptive analyses were carried out. Variables of interest are described in Table 2.

In general, values were slightly different across countries. Of note, even if restrictions were different across countries, hours outside were similar for all of them. A starting point was the analysis of Anxiety. A one-way ANOVA was carried out across counties on STAI-T, as differences on this variable might limit the comparison of the results. No statistical significance was found ($p = .057$) for Trait anxiety across Ireland, Italy and Spain. However, a difference was identified for state anxiety: $F_{(2,1143)} = 6.43$; Mean squared error (MSE) = 838.05; $p < .005$. The Least Significant Difference post hoc test also indicated statistically significant differences between Ireland and Italy ($p < .005$), as well as between Ireland and Spain ($p < .05$). However, differences between Italy and Spain were not statistically significant for STAI-S ($p = .30$). Considering this last result, as well as that Italy and Spain had similar rates of infections and deaths and could be considered similar in the severity and duration of their restrictions when data gathered, these two countries were clustered together.

Figure 1 depicts this new descriptive approach, including *t* tests for independent samples and its effect size through Cohen's *d*.

As can be seen in Table 3, there was a medium negative relationship between resilience and state anxiety. When social contact was conceptualised as a sum of its three main measures (Written + Audio + Visual), the new variable was slightly positively correlated with impact ($r = .09$; $p < .001$), Others ($r = .08$; $p < .001$) and BRCS ($r = .10$; $p < .001$).

TABLE 2
Descriptive analysis on variables of interest across countries

Occupation	*Ireland (n = 449)*		*Italy (n = 324)*		*Spain (n = 471)*	
Self-employed/essential service	14%		9.3%		18.6%	
Working from home	17.7%		16.3%		22.9%	
Employed without carrying out their work	5.1%		10.5%		10.5%	
Retired	1.1%		2.2%		2.7%	
Homemaker	.9%		.9%		2.7%	
Full-time student	51.4%		49.7%		30.5%	
Unemployed before Covid-19	2.7%		7.1%		5.1%	
Unemployed during Covid-19	7.1%		4%		7%	
Other variables[a]	*Mean*	*SD*	*Mean*	*SD*	*Mean*	*SD*
Age	29.24	11.68	29.87	12.58	32.99	13.12
Live with	2.83	1.44	2.54	1.87	2.30	1.61
Hours/week	3.10	2.44	2.97	3.48	3.19	2.91
Fear	5.70	2.53	5.80	2.62	4.80	2.48
Belonging	5.75	2.76	4.83	2.86	3.55	2.54
Impact	7.99	2.05	8.29	1.94	8.58	1.84
Well-informed	8.51	1.54	7.84	1.66	7.24	2.09
Others	9.22	1.38	8.75	1.81	8.60	1.94
Written	5.95	2.55	6.33	2.63	7.03	2.32
Audio	5.82	2.48	7.23	2.02	7.50	1.94
Visual	5.91	2.55	6.44	2.41	6.91	2.39
STAI-S	45.67	12.59	48.52	12.16	47.63	9.01
STAI-T	43.64	12.79	42.56	9.44	42.29	8.32
BRCS	14.67	2.50	14.16	2.88	14.58	2.24

[a]Age, number of people participants live with (Live with), hours outside per week (Hours/week), Fear of contagious diseases (Fear), sense of belonging to the country (Belonging), impact on economy (Impact), to considered self to be well-informed (Well-informed), measures for others are good (Others), maintaining written contact (Written), maintaining audio contact (Audio), maintaining visual contact (Visual), anxiety (STAI-S and STAI-T) and resilience (BRCS).

A linear multiple regression was carried out (see Table 4), where state anxiety was the dependent variable. The new variable of social contact was included in the analysis due to theoretical support for its role, while the other non-significant variables in the correlation analysis were excluded. The adjusted R^2 for the whole data set was .16, and the resulting model was significant; $F_{(5,1141)} = 42.95$; MSE = 111.29; $p < .001$.

Finally, different moderation models were assessed regarding the hypothesis on country measures being a moderator of the relationships between resilience and state anxiety, and between social contact and state anxiety. In this way, the relationship between STAI-S and BRCS was moderated by country measures; $F_{(3,1140)} = 29.41$; MSE = .91; $R^2 = .11$; $p < .001$. Figures 2 and 3 illustrate the theoretical model and its calculation across BRCS, STAI-S and country measures on the whole data set, the model that best fitted the previous stipulated moderation. More precisely, Figure 2 depicts the regression coefficients and moderation. The same moderation model for social contact as a predictor of STAI-S also reached statistical significance: $F_{(3,1140)} = 4.66$; MSE = 1.01; $R^2 = .16$; $p < .005$. However, social contact did not predict STAI-S, nor was an interaction found (all $p > .05$).

Lastly, Table 5 depicts the 95% confidence interval (CI) that was statistically significant with a CI excluding the zero value, by reporting both lower (LLCI) and upper levels (ULCI) for all the four analyses.

CONCLUSIONS AND DISCUSSION

We are facing an unprecedented global health emergency, where all countries are fighting against the Covid-19 virus. Within this fight, different measures have been implemented, largely related to social restrictions, and lockdown seems to be the most common approach for this purpose. However, these lockdown measures have differed across countries, and their psychological impact may be influenced by culture and by social norms (Alzueta et al., 2021). The aim of this study was to examine differences in state anxiety between countries which diverge in the severity and duration of the restrictions, as well as social support by digital means. For this reason, a moderation model was proposed across the variables of interest.

The main conclusions can be presented as follows: (a) the samples reported different STAI-S scores, with Ireland reporting lower levels, (b) Resilience was negatively related to state anxiety both bivariately and multivariately,

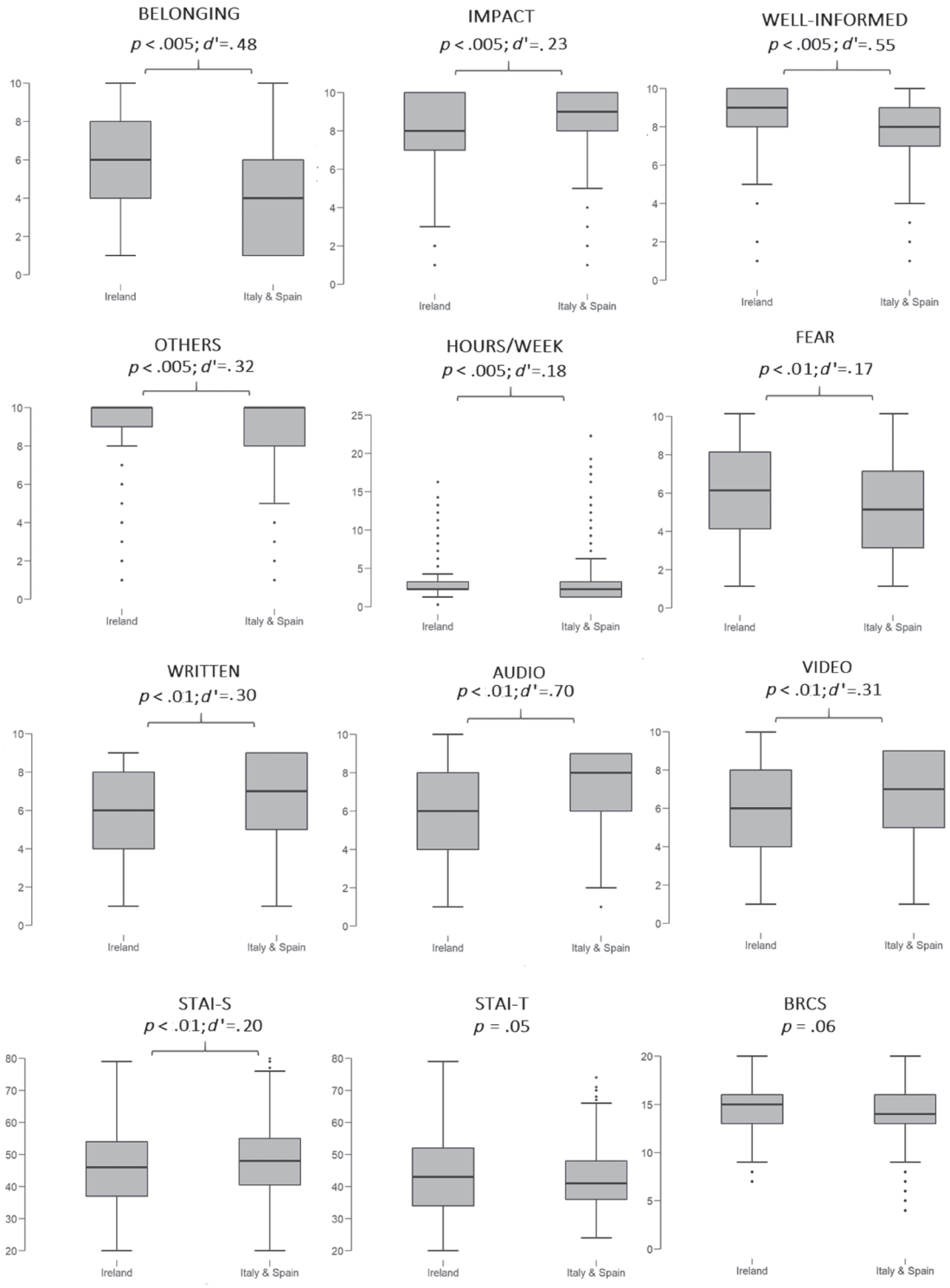

Figure 1. Descriptive across the new classification of samples (Ireland vs. Italy and Spain).

(c) neither number of hours outside per week nor social contact predicted STAI-S, (d) country measures showed a moderating role in the relationship between BRCS and STAI-S, being stronger for Ireland, v) social contact did not emerge as a significant predictor of STAI-S.

As STAI-T was not different among Italy, Ireland and Spain, this allowed us to focus on state anxiety (STAI-S), which was the main dependent variable of the current study. This was higher for Italy and Spain. For the whole dataset, state anxiety was significantly correlated to

TABLE 3
Zero order correlations among the variables of interest including the whole dataset (n = 1144)

	1	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*
Written (1)	1										
Audio (2)	.180**	1									
Visual (3)	**.251****	**.408****	1								
Fear (4)	−.010	.040	.046	1							
Belonging (5)	.000	.122**	.074*	**.320****	1						
Impact (6)	.055	.063*	.016	.140**	.148**	1					
Well-informed (7)	.087**	.152**	.085**	.144**	.193**	.116**	1				
Others (8)	.073*	.104**	.121**	.240**	.183**	.099**	**.272****	1			
Hours/week (9)	−.045	.031	−.039	−.060*	.012	.012	.071*	−.022	1		
STAI-S (10)	−.056	−.034	−.033	**.212****	.051	.181**	−.038	.004	−.010	1	
BRCS (11)	.093**	.111**	.051	−.110**	.019	−.010	.065*	.022	.027	**−.331****	1

*$p < .05$. **$p < .01$.

TABLE 4
Variables included in the linear regression model

							95% CI	
Model		*B*	*SE*	*β*	*t*	*p*	*LLCI*	*ULCI*
Whole data set (n = 1144)	Intercept	63.39	2.54	—	24.95	<.001	58.41	68.38
	Age	−0.06	0.02	−0.07	−2.63	.009	−0.11	−0.01
	Group	4.64	0.70	0.18	6.63	<.001	3.26	6.01
	Sex	2.79	0.67	0.11	4.12	<.001	1.46	4.11
	Social	−0.13	0.06	−0.06	−2.16	.030	−0.25	−0.01
	BRCS	−1.36	0.12	−0.30	−10.97	<.001	−1.61	−1.12

β = standardised; *B* = unstandardised; LLCI = lower confidence interval level; *SE* = standard error; ULCI = upper confidence interval level.

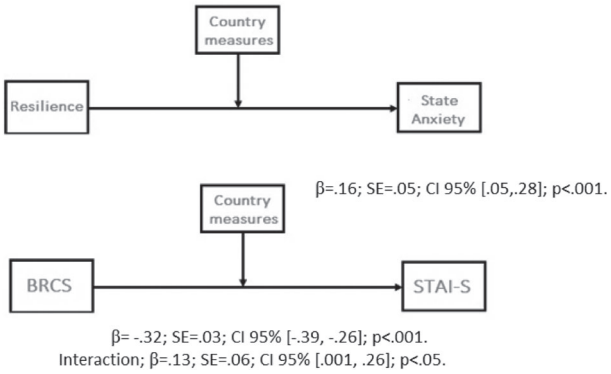

Figure 2. Moderation model proposed. On the bottom and the right: Calculation of the moderation model in the whole dataset (n = 1144).

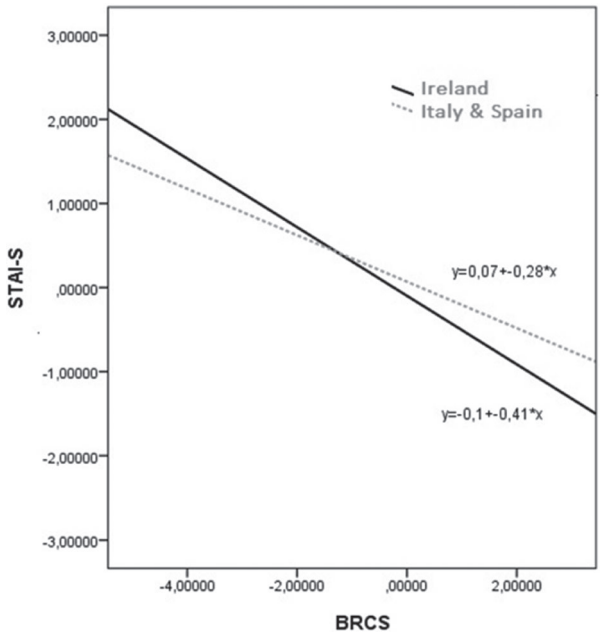

Figure 3. Representation of the moderation found in the whole dataset (n = 1144).

Fear of contagious diseases and *Worries on the economic impact*. Of note, during the Covid-19 outbreak, we are living in situations of uncertainty that might be expected to result in feelings of fear, restlessness and nervousness.

Resilience can be protective against anxiety in times of adversity (Brailovskaia et al., 2018) such as the one we are suffering globally. As expected, the results support this hypothesis, as resilience predicted lower state anxiety across the entire sample. It should be noted that resilience represents a form of coping to face stressful and adverse events that might be affected by underlying factors (Murphy et al., 2021). The current results might support resilience as a dynamic process, where a set of environmental and personal factors, such culture, interact

TABLE 5
Conditional effect of *X* on *Y* at values of the moderator

Data	*Predictor*	*Group measures*	*Effect*	*SE*	*t*	*p*	*LLCI*	*ULCI*
$n = 1144$	Resilience	Ireland	−.41	.05	7.83	<.001	−.50	−.30
		Italy and Spain	−.28	.04	6.63	<.001	−.35	−19
		Interaction	.13	.06	1.97	<.05	.001	.26
	Social contact	Ireland	−.09	.06	1.52	.12	−.19	.02
		Italy and Spain	−.05	.04	1.19	.23	−.11	.03
		Interaction	.04	.07	.64	.51	−.09	.19

Note: Effects, standard error (*SE*), statistical significance and lower and upper (LLCI and ULCI) levels.

to cope positively with difficulties, managing to adapt to adverse situations (Modesto-Lowe et al., 2021). However, one of the main limitations of this study is not being able to separate the culture variable from local conditions.

With regards to the moderation model on resilience, this concept is of especial interest and valuable in understanding how people face adversity at such a time. One should bear in mind here that in cross-cultural approaches, resilience can often be understood as the opposite of vulnerability (Panter-Brick, 2015). Lower resilience might lead to worse outcomes in more adverse situations. So, if the situation in Spain and Italy was more severe, one might expect lower resilience to lead to worse outcomes there than in Ireland. However, internal consistency in the Spanish population was lower in this construct than in other groups. This could support the effect of the situation on the psychometric properties of the scale. Although current results do not allow for this direct conclusion in this direction, further research should examine the malleability of resilience. This would shed light on the resilience nature as a mixed component of personality for most (Solà-Sales et al., 2021).

Considering social contact on the other hand, even if this did not predict state anxiety in the current study, the relationship may be complex and require more sophisticated investigation. Rather than simply number of interactions (a measure of quantity), it may be necessary to assess its quality, for example, fake news share by friends could lead to serious harm, in particular for older adults (Brashier & Schacter, 2020), while positively perceived social support is more beneficial than negatively perceived social support (Chronister et al., 2006) and the current study measured only amount and not positivity of social contact. In addition, low internal consistency for anxiety in the Spanish population occur, expected to be related to a similar process than the resilience case.

It is also interesting to note the role of sex, as women seem to report higher levels of state anxiety (Özdin & Bayrak Özdin, 2020; Xiong et al., 2020), which is supported by the current results. Literature has suggested that women's traditional role as main caregivers, combined with working from home, may be partly responsible (Gausman & Langer, 2020). This blurring situation might lead to increased anxiety, depicting a situation of special vulnerability, which is of interest for future lines of research.

Some other limitations or shortcomings should be noted in the current research. First, this is self-report and correlational study in nature, employing a non-probabilistic sampling method. Thus, some bias might occur, particularly in the generalisation of results to local adult populations. In addition, it should be noted that alpha was lower in the Spanish sample for STAI-S and resilience, as previously stated. On the other hand, in the moderation model, reference has been made to the severity of the restraint measures. However, there are interesting cultural differences between countries that should be considered in future studies. Lastly, the quality and quantity of information that people receive at times like the current pandemic was not measured. Studies show that information is a very important factor in correctly dealing with crisis situations and our results corroborate this. But information can also act as a double-edged sword, leading people to adopt attitudes that are adaptive in the short term but lead to extremist positions in the future and pose a danger to them (van Prooijen et al., 2015). Future lines of research should address this issue carefully.

The application of the current results might be of interest on two levels, both applied and theoretical. On an applied level, results of social and behavioural science can be used to support future Covid-19 pandemic responses (Murphy & Moret-Tatay, 2021; Van Bavel et al., 2020). This can involve different aspects, such as policy making and training programs on resilience, in each case considering the evidence in relation to local elements of the relationship of resilience to state anxiety, and considering the restriction measures experienced (e.g. the effect of extreme restriction measures for countries such Italy and Spain), their effect across the relationship between resilience and anxiety, and how negative impacts might be ameliorated in future waves of Covid-19 and in future pandemics.

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