Links between Child Shyness and Indices of Internalizing Problems during the COVID-19 Pandemic: The Protective Role of Positivity

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Abstract

Shyness in childhood has been linked to socio-emotional difficulties such as anxiety, depression, and loneliness. On the contrary, positivity (i.e., a personal tendency to see oneself, life, and future in a positive light) has been described as a protective factor. Given the challenges experienced by children during the first wave of the COVID-19 pandemic (e.g., closure of school and confinement), we aimed to test the potential protective role of positivity and how it may link child shyness and indices of internalizing problems (i.e., anxiety, depression, loneliness) during the first wave of the pandemic. Participants were N = 236 children (M_{age} = 9.25 years, SD = 1.20) from Italy, Spain, and the United Kingdom, the three worst-hit countries in Europe when the data were collected (April-June, 2020). Children completed online self-evaluation scales to assess temperamental shyness, positivity, and indices of internalizing problems during the COVID-19 pandemic. Results from a multivariate regression analysis revealed significant interaction effects between shyness and positivity in the prediction of outcome variables. Follow-up simple slope analyses indicated that shyness was positively related to depression only among children with lower levels of positivity. The study highlights the role of children's positivity in buffering the pernicious link between shyness and their negative feelings during the pandemic. The practical implications of these findings are discussed.

Keywords: shyness, positivity, internalizing problems, COVID-19 pandemic, children

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Since January 2020, the coronavirus emergency (COVID-19) has rapidly spread around the world, representing a pandemic disaster and a threat to both people's health, especially children, and the economy. Depending on the level of contagion or efficiency of health care available, schools and outdoor activities were prohibited, and children had to remain at home to be educated via distance learning. Consequently, children's socialization experiences with peers were reduced and mental health problems such as anxiety, depression, and loneliness increased (Loades et al., 2020; Vallejo-Slocker et al., 2020). Despite an influx in the publication of COVID-19 related articles since the onset of the pandemic, few studies have focused on *protective* characteristics in children, that may reduce the socio-emotional difficulties during this emergency.

In line with the bioecologial model, children's *dispositional* characteristics (e.g., temperamental shyness, positivity) may contribute differently to explaining socio-emotional development (Bronfenbrenner & Morris, 2006). Similarly, the societal, political, cultural, and economic influences at the broader macrosystem level may also play a crucial role. In the present study, we aimed to understand the links between temperamental shyness and indices of internalizing problems (e.g., anxiety, depression, loneliness), as well as the role of positivity in protecting shy children's socio-emotional functioning during the first lockdown of the COVID-19 pandemic. We investigated this in two Mediterranean countries (Italy and Spain) and the United Kingdom (UK). These three countries reported a higher numbers of cases and deaths from the start of the pandemic, representing the worst-hit countries, especially in Europe, when the data were collected (April 30; World Health Organization, 2020). A specific focus has been

given to temperamental shyness to understand how children already disposed to withdraw from others and display internalizing problems (Coplan et al., 2020; Karevold et al., 2011; Karevold et al., 2012; Rubin et al., 2009) experienced the first lockdown.

Overview of Shyness in Childhood

Researchers have described several "reasons" why children may refrain from engaging in opportunities for social interaction. These include being actively excluded/isolated by peers, preferring/enjoying spending time alone, and actively avoiding social situations perceived as stressful/unpleasant (Rubin et al., 2009). In the present study, we focused on *shyness***,** a temperamental trait characterized by excessive fear and anxiety, especially in novel social contexts, as well as embarrassment in situations of perceived social evaluation (Rubin et al., 2009). In the literature the construct of shyness overlaps with other different terms such as behavioral inhibition (Kagan, 1997) and anxious solitude (Gazelle & Ladd, 2003).

Asendorpf's motivational model (1990) conceptualized shyness as characterized by an inner conflict between social approach and social avoidant motivations. Shy children desire to interact with others (i.e., high social approach motivation) but, simultaneously, they may prefer to withdraw from interactions because of feelings of social anxiety and fear (i.e., high social avoidant motivations) (Coplan et al., 2004). Shyness represents a risk factor for children's socio-emotional problems, including emotional disorders and difficulties in social relationships with others (Ding et al., 2020; Grose & Coplan, 2015; Kopala- Sibley & Klein, 2017; Poole et al., 2020). For example, shyness has been consistently associated with loneliness in children and adolescents (Coplan et al., 2017; Coplan et al., 2021; Liu et al., 2017; Jahng & Kim, 2020; Xu et al., 2014). In a sample of young children, Jahng and Kim (2020) further reported that play disconnection (e.g., being ignored or rejected by peers) mediated the link between shyness and

loneliness. Similarly, Wang et al. (2020), in a sample of children aged 9-12 years in Shanghai, found that shyness was linked to psychological maladjustment, including loneliness and depression.

Shyness in middle to late childhood is also associated with symptoms of anxiety and depression (Coplan et al., 2013; Kingsbury et al., 2013). For example, in late childhood and early adolescence, shyness (behavioral inhibition) is concurrently related to anxiety, worry, and depression (Muris et al., 1999; Muris et al. 2003). In a longitudinal sample of children aged 5-10 years, Poole et al. (2020) found that children who displayed trajectories of high and stable shyness were more socially anxious compared to children in the low-stable class. Sandstrom et al. (2020), in a recent meta-analytic study, concluded that shyness in early childhood represents one of the principal risk factors for anxiety disorders later in development.

Taken together, these findings suggest links between shyness and negative outcomes especially in the age period of the current study, when children and early adolescents spend most of their time with peers (Rubin et al., 2015). Having positive experiences with peers and making new friends are crucial experiences for children's social, emotional, cognitive, and linguistic development. In this regard, it is important to study the emotional and social functioning of shy children and early adolescents as well as protective factors that may counteract negative outcomes during the COVID-19 pandemic.

The Role of Positivity

Despite the risks related to being a shy child, there is considerable variability in the outcomes associated with shyness and many shy children do not display substantive socio-emotional difficulties. In this regard, previous research has explored risk and protective factors related to shyness, including both individual (e.g., coping strategies) and contextual (e.g., peer

relationships) factors (for a recent review see Coplan et al., 2020). In the current study, we focused on the role of positivity that may serve as a protective factor for the overall well-being of shy children and early adolescents, given that positivity has been found to be especially protective in stressful situations (Caprara et al., 2018).

Positivity is the dispositional tendency to view oneself, one's own life, and the future through a positive lens (Caprara et al., 2012). Positivity is conceptualized as a unique factor that encompasses aspects of global self-esteem (i.e., being worthy of value; Rosenberg, 1965), optimism (i.e., having positive expectations about one's future; Scheier & Carver, 1993), and life satisfaction (i.e., displaying a positive evaluation about one's own life; Diener et al., 1985). Indeed, positivity reflects how individuals perceive themselves, the past, and the future, constituting the dispositional base for experiencing happiness (Caprara et al., 2017).

Results from several studies have indicated that positivity can act as a general protective factor across different developmental phases, sustaining the well-being of children (e.g., Zuffianò et al., 2019), adolescents (e.g., Luengo Kanacri et al., 2017), and adults (e.g., Alessandri et al., 2012). In this regard, positivity appeared to not only be related to a better socio-emotional adjustment but also to lower levels of behavioral and emotional problems in different age groups (Alessandri et al., 2012; Caprara et al., 2012; Luengo Kanacri et al., 2017; Tian et al., 2018; Zuffianò et al., 2019). For instance, in a sample of children and adolescents aged 9-15 years in the United Kingdom (UK), Zuffianò et al. (2019) found that positivity was positively related to prosocial behaviors (i.e., voluntary and intentional actions aimed to benefit others) and negatively associated with both internalizing (i.e., emotional symptoms and peer problems) and externalizing (i.e., conduct problems and hyperactivity/inattention) behavioral problems. Luengo Kanacri et al. (2017) reported bidirectional links among positivity and positive school climate

(e.g., students who cooperate with teachers) in a longitudinal study conducted with adolescents aged 12 to 13 years in Colombia. The more individuals perceived themselves and the world around them positively, the more likely they were to view the school environment as positive. Positivity also reduced the presentation of emotional problems such as anxiety, depression, or loneliness. Indeed, as also reported by Alessandri et al. (2012), youths, followed from 10th Grade to college in Italy, with higher levels of positivity displayed positive affect, resilience, and better quality of friendships. Tian et al. (2018) also highlighted the role of positivity in reducing depression and increasing the subjective wellbeing in a sample of Chinese adults aged 22 to 46 years.

Although previous studies have investigated the protective role of shy children's characteristics (e.g., pragmatic language, Coplan & Weeks, 2009; coping, Kingsbury et al., 2013) for promoting a better socio-emotional functioning, they have overlooked the potential role that positivity can play. Given that positivity promotes children and adolescents' overall well-being, especially in stressful situations (Caprara et al., 2018), we aimed to investigate its protective role during the COVID-19 pandemic and specifically in children who are already prone to internalizing difficulties. Based on prior studies, we reasoned that shy children who have a positive self-evaluative tendency may present with less internalizing difficulties during the COVID-19 pandemic. In other words, children with higher self-esteem, life satisfaction, and optimism may be better disposed to cope with stressful situations, experiencing positive feelings and reducing the risk for anxiety and negative mood (Caprara et al., 2017). This could be particularly effective for shy children, who are generally prone to experience internalizing emotions such as anxiety, loneliness, and depression (Sandstrom et al., 2020; Wang et al., 2020).

The Impact of the COVID-19 Pandemic in Italy, Spain, and the UK

Since the beginning of the COVID-19 pandemic, different countries have adopted soft to strict measures of lockdown to prevent the transmission of the virus. The first lockdown strategy was introduced in China (Wuhan city in January of 2020) and, successively, it has been adopted in other countries around the globe at different phases, from February/March 2020. In the present study, we focused our attention on Italy, Spain, and the UK, the three worst-hit countries in Europe during the first wave of the virus (April 30; World Health Organization, 2020). During the lockdowns in March 2020, when individuals, including children, had to remain at home for several weeks, going out for necessity only, Italy and Spain (as Mediterranean countries) and the UK had a high number of cases and deaths, although they differed in their rates of infection. The epidemic curve increased initially in Italy, then in Spain, and finally in the UK.

Various measures were adopted by Italy, Spain, and the UK to prevent transmission as well as quarantine or local/full lockdowns, including school closures (Armitage & Nellums, 2020). Italy and Spain adopted first local and then, total lockdowns from the start of the pandemic, whereas the UK initially adopted herd immunity and then, a total lockdown measure. For instance, the first case of COVID-19 in Italy was observed in Codogno (a small city in the North) on 21 February 2020 and, consequently, the government imposed a local lockdown to avoid transmission. More severe measures were imposed with the spread of the virus across Italy, arriving at a total lockdown on March 11, 2020. In Spain, a similar strategy was employed declaring an emergency state on 14 March 2020. In the UK, a national lockdown was declared on 23 March, when there was an uncontrollable surge in cases.

During the lockdown, countries also imposed different rules for children as well as the prohibition to do sports or walk with parents or caregivers (Xiang et al., 2020). For instance, at the beginning of the pandemic, children in Spain were forbidden to leave their house and

successively, they were permitted to go out only for one hour per day. A similar situation was observed in Italy where children had to remain at home during the emergency, living in total obligatory confinement. In the UK the situation was similar, however a softer approach was adopted where schools remained open to educate vulnerable children and the offspring of critical workers; children were also allowed to leave their house to exercise for one hour every day.

Research conducted since the start of the COVID-19 pandemic suggests negative psychological effects because of lockdowns such as anxiety, loneliness, and depression (Brooks et al., 2020). For instance, Pisano et al. (2020) found that children aged 4 to 10 years in Italy displayed higher mood changes, irritability, or fears during the lockdown, as reported by parents. Spinelli et al. (2021) found that parental stress was related to less involvement with the child that, in turn, was associated with children's difficulties in emotion regulation as reported by parents of 2–14-year-olds children in Italy. Duan et al. (2020), in a sample of Chinese children and adolescents aged 7 to 18 years, revealed that the COVID-19 outbreak increased levels of anxiety and depression that were higher than before. The severity of the negative psychological effects was also influenced by the duration of the lockdown measures as well as the transmission of inadequate information (Digiovanni et al., 2004; Hawryluck et al., 2004; Reynolds et al., 2008). Bignardi et al. (2020) conducted a longitudinal study before and during the lockdown in the UK with a sample of children aged 7.5-11.6 years and found a significant increase in depression symptoms but not in anxiety and emotional difficulties. In a study by Orgilés et al. (2020), Spanish and Italian parents of children aged 3 to 18 years reported more frequent negative symptoms such as irritability, loneliness, and worries during the quarantine.Vallejo-Slocker et al. (2020) also reported that Spanish children and adolescents had

more psychological difficulties during lockdown (e.g., emotional problems, peer difficulties) than children and adolescents observed in 2017, before the COVID-19 pandemic.

The Present Study

In line with the bioecologial model (Bronfenbrenner & Morris, 2006), which emphasizes the role of individual and contextual factors affecting children's socio-emotional development, the current study aimed to investigate the potential protective role of positivity in child shyness and internalizing problems during the COVID-19 pandemic in Italy, Spain, and the UK. We explored the associations between shyness and loneliness, anxiety, and depression, as well as the potential protective role of positivity. In detail, we hypothesized that shyness would be positively related to loneliness, anxiety, and depression (e.g., Coplan et al., 2021; Sandstrom et al., 2020) and that positivity may help shy children cope with the stressful situation of the COVID-19 pandemic in all the investigated countries (Caprara et al., 2018).

Possible differences in children's socio-emotional functioning across the investigated countries were also explored. The Children's Society (2020) reported that there has been a decline in life satisfaction and happiness, especially in early and late adolescence in the UK compared to the other countries in Europe, before and during the pandemic. In this regard, we speculated that children from the UK may display higher levels of loneliness and lower levels of positivity compared to children from Italy and Spain. Since the prolonged closure has been documented to affect children's levels of anxiety and depression (Xie et al., 2020), we also expected that children from Italy and Spain could report higher levels of anxiety and depression given that the lockdown measures started earlier compared to children from the UK.

Method

Participants

Participants in the present study were N = 236 children (n = 131 girls) from Italy, Spain, and the UK aged from 6 to 12 years (M_{age} = 9.25 years, SD = 1.20). This included n = 127 children (71 girls) from the UK (M_{age} = 9.22 years, SD = 1.18), n = 80 children (43 girls) from Italy (M_{age} = 9.14, SD = 1.27), and n = 29 children (17 girls) from Spain (M_{age} = 9.66, SD = 1.08). Given the low number of children in Spain and the lack of differences in terms of age, $F(1, 107) = 3.79$, $p = .05$, partial $\eta^2 = .03$, and gender, [$\chi^2(1) = 0.10$, $p = 0.75$], data from Spain and Italy were merged together (i.e., Mediterranean countries) for the subsequent analyses. Results also revealed no age, $F(1, 233) = 0.12$, $p = 0.73$, partial $\eta^2 = .001$, or gender, [$\chi^2(1) = 0.002$, $p = 0.97$], differences among the UK and Mediterranean countries.

Procedure

The present study was part of a larger research project aimed at investigating children's socio-emotional functioning during the COVID-19 pandemic. Participants were contacted through social media (e.g., Facebook) and word of mouth. The study was conducted online from 23th April 2020 to 25th June 2020. At that time, the UK, Italy, and Spain were the three worst-hit countries in Europe during their respective lockdowns (April 30; World Health Organization, 2020). After receiving parental and child consent, children completed an online questionnaire, composed of different sections, by using the smartphone or laptop with an internet connection. The study was reviewed and approved by the Ethics Committee (deleted for blind review).

Measures

Shyness[1]. Shyness was assessed using the *Child Social Preference Scale* (CSPS; Coplan et al., 2004; Sette et al., 2017), originally developed as a parental rating of child social withdrawal (e.g., shyness, unsociability). The scale was adapted in the current study to be used as

[1]As a preliminary step, we checked the measurement invariance of our constructs across countries (the UK and Mediterranean countries). The results indicated that at least partial scalar measurement invariance was reached for all the scales.

a child self-report measure. We asked children to complete 7 items (e.g., "I want to play with other children, but I am sometimes nervous to"; "I often watch other children play without approaching them") rated on a five-point scale (from 1 = *Not at all*, to 5 = *A lot*). Given that shyness is considered a temperamental characteristic of a child, we asked children to respond by thinking about how they behave and feel in general, not only during the COVID-19 pandemic. Cronbach's alpha for the shyness scale was .71 (α values were .77 and .66 for the UK and Mediterranean countries, respectively).

Positivity. Children completed the positivity scale (Caprara et al., 2012), which aimed to understand children's tendency to evaluate their life and experiences positively. The scale is composed of 8 items (e.g., "I look to the future with hope and optimism"; "I am satisfied with my life") rated using a five-point scale (from 1 = *strongly disagree*, to 5 = *strongly agree*). For the current study, we asked children to respond by thinking about how they felt in the past two weeks, during the COVID-19 pandemic. Cronbach's alpha for the current study was .78 for the total sample (α values were .80 and .76 for the UK and Mediterranean countries, respectively). This scale has already revealed good psychometric properties in different cultural groups (e.g., Heikamp et al., 2014; Zuffianò et al., 2019).

Depression. The Children's Depression Inventory- Short Form (CDI-S; Kovacs, 1992) has been used to assess symptoms of depression (e.g., feeling sad, doing everything wrong, feeling like crying). Children chose one sentence out of three (for 10 symptoms) which best described how they had felt in the past two weeks during the pandemic. Examples of sentences for each symptom include "I am sad once in a while; I am sad many times; I am sad all the time" or "I do most things O.K.; I do many things wrong; I do everything wrong". Cronbach's alpha was .71 for the total sample (α values were .73 and .70 for the UK and Mediterranean countries,

respectively). The CDI-S has previously demonstrated reliability and validity in the UK, Italy, and Spain (e.g., de la Vega et al., 2016).

Loneliness. A self-report measure was used to assess children's loneliness (it was adapted from Asher et al., 1984; see also Asendorpf & van Aken, 1993). For the current study, children were requested to respond to 10 self-statements (e.g., "I feel alone"; "I feel left out of things") using a five-point scale (from 1 = *not at all true*, to 5 = *always true*). In line with the aims of this study, we asked participants to think about how they felt in the past two weeks, during the COVID-19 pandemic. Cronbach's alpha was .83 for the total sample (α values were .85 and .81 for the UK and Mediterranean countries, respectively). This scale has demonstrated a good reliability in different cultural samples (e.g., Chen et al., 2004).

Anxiety. The generalized anxiety/overanxious symptoms subscale of the Spence Children's Anxiety Scale (SCAS-Child; Spence, 1998) was used in the current study. Children completed 6 items, on a 4-point scale ranging from 1 (*never*) to 4 (*always*). The subscale assessed the frequency with which children experience symptoms (e.g., "I feel afraid"; "I worry that something bad will happen to me") in the past two weeks, during the COVID pandemic. Cronbach's alpha was .78 for the total sample (α values were .86 and .65 for the UK and Mediterranean countries, respectively). A systematic review has demonstrated that the SCAS was a reliable measure for cross-cultural use (Orgiles et al., 2016).

Data Analyses

Correlations analyses were computed in SPSS 27 to assess relations among the study variables. To assess the potential moderating role of positivity in the associations between shyness and indices of internalizing problems (i.e., anxiety, depression, and loneliness), we used a *multivariate regression analysis* in M*Plus* 8 (Muthén & Muthén, 1998–2017) in which the

three outcomes, as well as their correlations, were included simultaneously in the model. More in detail, the dependent variables anxiety, depression, and loneliness were regressed on the following independent variables: country (0 = *the UK*, 1 = *Italy and Spain as Mediterranean countries*), gender (0 = *girls*, 1 = *boys*), age, shyness, and positivity. Next, we first added the focal interaction term "positivity x shyness" and, then, the additional two-way interaction terms ("positivity x country", "shyness x country") to also explore the presence of a possible three-way interaction with country (i.e., "positivity x shyness x country"). As further additional analyses, we also repeated the same steps to explore possible three-way interactions involving gender (i.e., "positivity x shyness x gender") and age ("positivity x shyness x age"). To probe significant interaction terms, we used simple slope analyses and all the continuous predictors (i.e., shyness, positivity, and age) were mean-centered (Cohen et al., 2002). Full-information maximum-likelihood (FIML) estimation of the parameters was used to handle the missing data.

Results

Descriptive and Correlational Analyses

Means and standard deviations for the main study variables are presented in Table 1. Overall, the total sample reported low mean scores for all study variables. Correlations among the study variables are reported in Table 2. Of note, children's shyness was negatively related to positivity and positively associated with loneliness, anxiety, and depression. Positivity was negatively correlated with loneliness, anxiety, and depression. Children's depression was positively associated with loneliness and anxiety that, in turn, was positively related to loneliness. Results also revealed that children from Mediterranean countries displayed higher levels of positivity than children from the UK. Children from Mediterranean countries also

displayed lower levels of loneliness and higher levels of anxiety compared to children from the UK. Age and gender were not significantly associated with any of the study variables.

Multivariate Regression Analysis

Amongst the explored interaction effects, only the effect of the term "positivity x shyness" was statistically significant in relation to depression and loneliness but not anxiety (b = -.04, p = .66). The results of the final multivariate regression analysis are represented in Table 3[2].

For *depression*, simple slope analyses (see Figure 1) revealed that among children with lower levels of positivity (1 SD below the mean), shyness was significantly and positively related to depression (b = .14, $p < .001$). However, at higher levels of positivity (1 SD above the mean), this association was not significant (b = -.01, p = .72). Results also revealed a main effect of country on depression, with higher scores on depression in Mediterranean countries. The main effects of gender and age on depression were not significant.

For *loneliness*, results again revealed a significant shyness × positivity interaction effect. Results from the simple slope analyses (see Figure 2) revealed that among children with lower levels of positivity (1 SD below the mean), shyness was significantly and positively related to loneliness (b = .29, $p < .001$). At higher levels of positivity (1 SD above the mean), this association was significant but weaker (b = .16, p = .001). The main effects of country, gender, and age on loneliness were not significant.

Finally, for *anxiety*, since the shyness × positivity interaction term was not significant, we found the main effects of shyness, positivity, and country on anxiety. Results revealed a positive relationship between shyness and anxiety and a negative association between positivity and anxiety. Results also suggested that children from Mediterranean countries reported higher levels

[2]The analysis was conducted by using the Maximum Likelihood estimator with robust standard errors to take into account the lack of normality in the scores of depression.

of anxiety compared to children from the UK. The main effects of gender and age on anxiety were not significant.

Results revealed that depression, anxiety, and loneliness were positively related to each other. The explained variances of depression, loneliness, and anxiety were Rs^2 = .45, .37, .18, respectively.

Discussion

In this study, we investigated the moderating role of positivity in the link between child shyness and indices of internalizing problems during the COVID-19 pandemic in Italy, Spain (i.e., Mediterranean countries) and the UK. We focused on the role of positivity in shy children since they are already disposed to withdraw from others and display a higher risk for mental health difficulties (Coplan et al., 2020). Possible differences among the UK and Mediterranean countries were also explored. Overall, shyness was positively related to anxiety, depression, and children's loneliness that, in turn, were positively associated with each other. Although the overall sample reported relatively low mean scores for the main variables of the study, children from Mediterranean countries reported higher levels of anxiety and positivity and lower levels of loneliness compared to children from the UK. Of particular interest is that our results supported the hypothesis that positivity would moderate the association between shyness and internalizing problems in the total sample. Specifically, at lower levels of positivity, children's shyness was positively associated with depression and loneliness, whereas among children with higher levels of positivity, the effect of shyness was attenuated. Of note, this buffering effect was not found in the prediction of anxiety. Overall, our findings, although exploratory, suggest that shy children who perceive themselves, the past, and the future more positively displayed fewer difficulties in terms of negative mood or loneliness during the COVID-19 pandemic.

Shyness and Internalizing Problems in Mediterranean Countries and the UK

In this study, children's shyness was positively associated with feelings of anxiety, depression, and loneliness. These findings are in line with previous studies that revealed that shy children experienced feelings of anxiety and worry in different domains (e.g., family, health) and social situations, as well as negative mood or loneliness (Coplan et al., 2021; Sandstrom et al., 2020; Wang et al., 2020). The negative feelings of shy children appeared to be also present during the COVID-19 pandemic and its associated lockdown, even when shy children remained in the familiar surroundings of their home. The prolonged closure of schools and perceived risk of being infected by COVID-19 may have increased children's worry, in line with results of other studies (e.g., Crescentini et al., 2020; Orgilés et al., 2021). During the lockdown measures adopted to prevent transmission as well as school closures, shy children also displayed feelings of being alone and not having anyone to play with. Although previous studies have revealed the negative impact of physical distancing and lockdown in all children (Bignardi et al., 2020; Pisano et al., 2020; Vallejo-Slocker et al., 2020), this is the first study to date to investigate shy children's feelings during these stricter measures. Following Asendorpf's (1990) motivational model, shy children are generally characterized by an internal conflict between the desire to interact with others and motivations to avoid others. Therefore, although the confinement could have represented a familiar and secure context, shy children could have experienced anxiety, negative mood, and loneliness for their internal desire to interact with others. However, the present study cannot provide answers as to whether the magnitude of the associations between shyness and negative outcomes was larger during the COVID-19 pandemic than before. Also, there is some evidence to suggest that shyness (behavioral inhibition) is negatively related to certain types of internalizing problems (i.e., generalized anxiety disorder), yet still predictive of others (i.e., social anxiety disorder) (Aksan & Kochanska, 2004; Zdebik et al., 2019). Therefore,

future studies should better investigate possible mechanisms linking shyness with specific types of internalizing problems over the different phases of development.

This study revealed cross-cultural differences with higher levels of anxiety and positivity reported in Mediterranean children compared to the British children, who in turn, reported being more lonely. These results are in line with the findings reported in The Children's Society (2020) whereby early adolescents in the UK displayed less happiness and life satisfaction and more sadness compared to the other countries in Europe (see also United Nations International Children's Emergency Fund [UNICEF], 2020). Also, Italy and Spain are generally considered as societies that do not tolerate ambiguity and uncertainty well, as compared to the UK (Bottesi et al., 2016; Dugas et al., 1998). The COVID-19 pandemic may have entailed these feelings and, therefore, greater levels of anxiety in Italy and Spain were evident in comparison to the UK. It is also possible that children from the Mediterranean countries may have displayed higher levels of anxiety compared to children from the UK because Italy and Spain adopted stricter lockdown measures and for a longer period in comparison to the UK. The prolonged closure of the schools, the total lockdown, and the duration of physical distancing may have increased children's levels of worry in line with results of previous studies about the impact of stricter lockdown measures on children's mental health (Xie et al., 2020). Literature has indeed revealed the positive benefits of social relationships with significant others for children's improvement of social, emotional, cognitive, and linguistics competencies and the negative consequences of loneliness, especially for children, where interacting with peers represents a key developmental task (Baumeister & Leary, 1995; Hawkley & Cacioppo, 2010; Rubin et al., 2015). However, given the small sample size and the lack of specific information about the lockdown experiences of children or their feelings before the COVID-19 pandemic, future studies are necessary to understand whether

these differences represent the impact of the COVID-19 or cultural differences independent of the pandemic.

The Role of Positivity during COVID-19 Pandemic

The current study looked at the protective role of positivity and its interaction with shyness in the prediction of internalizing problems (i.e., anxiety, depression, loneliness) during the COVID-19 pandemic. We found that at higher levels of positivity, shyness was not significantly related to depression, whereas at lower levels of positivity shyness was significantly and positively associated with depression. In other words, children who were positively disposed to think about themselves, their life, and future were less at risk of developing a negative mood during the COVID-19 pandemic. Although the interaction effect was weaker, a similar result was found in the association with loneliness. The strength of the positive association between shyness and loneliness was weaker at higher levels of positivity than lower levels of positivity. These findings, although preliminary, are in line with previous research that reported the protective role of positivity in helping children to experience happiness in life and better overall mental health (Caprara et al., 2018; Zuffianò et al., 2019).

It is noteworthy that the results of the current study did not confirm the protective role of positivity in reducing levels of children's anxiety during the COVID-19 pandemic. In other words, the cognitive orientation to look positively at one's own life and future may protect children from experiencing a negative mood but do not reduce general feelings of worry and their associated anxiety. This result is in line with cognitive theories where a negative view of one's own life, the future, and the world characterize depressed individuals (Beck, 1967; Clark & Beck, 1999). Hence, positivity seems to improve an individual's positive cognitions which in turn, protect them from depression but not from anxiety. Previous research has identified other

protective factors for shy children's expression of anxious and socially withdrawn behaviors such as close and supportive relationships with significant others (Arbeau et al., 2010; Graham & Coplan, 2012). Therefore, future studies should also investigate the role of contextual factors (e.g., close and supportive relationships) for shy children's anxiety during the pandemic.

Strengths, Limitations, and Future Directions

This research contributes significantly to the current understanding of the protective role of positivity in helping children already prone to withdraw from others to experience lower levels of loneliness and negative mood during the COVID-19 pandemic. Strengths of this study include the inclusion of children living in the UK, Italy, and Spain, the worst-hit countries in Europe during the first lockdown (April 30; World Health Organization, 2020). Also, children's mental health measures and their characteristics such as shyness and positivity were collected with the use of self-reported measures.

However, some limitations should be considered in the interpretation of the results, with an eye toward future research. First, data were collected during school closure, when children were being educated at home via distance learning. Children who display internalizing difficulties could have felt protected in their household without social obligations or exposure during the lockdown. Future studies could understand children's perceptions in more depth (i.e., negative, positive) of the lockdown during the pandemic as well as the emotional functioning and reactions when they physically returned to school, with the adoption of several measures (e.g., the use of face masks, the physical distancing from peers and teachers). Although the data were collected in different countries, this is a cross-sectional study so we can only determine how children scored on each measure at a single time point of the COVID-19 pandemic and as such cannot determine causality between the variables assessed. Future longitudinal studies

could overcome these limitations and investigate the role of positivity in predicting children's mental health over time, i.e. during and at the end of the COVID-19 pandemic. Also, in the current study, we focused on temperamental shyness as perceived by children themselves. Since the Child Social Preference scale (CSPS; Coplan et al., 2004) was initially developed as a parental rating scale, it would be useful to also collect parental perceptions of children's shyness to have a comprehensive profile of children's social preferences from different informants. Future studies should investigate other temperamental traits such as impulsivity or inhibitory control and their associations with children's socio-emotional functioning and mental health. In other words, it would be interesting to understand the reactions to the pandemic of children who are generally well-regulated or of children who tend to be more impulsive and less socially adjusted (Wang et al., 2019). Finally, it would also be interesting to investigate parental perceptions about children's socio-emotional functioning (e.g., anxiety, loneliness) and the role of parental emotional reactions in affecting children's emotional functioning during this challenging period.

Conclusion

In conclusion, although our findings are exploratory and more research is necessary, high levels of positivity may represent a protective factor for shy children's levels of depression and loneliness, especially during the COVID-19 pandemic. Parents, caregivers, and practitioners should focus on promoting children's positive attitude towards themselves, their life, and the future during the pandemic to help foster optimism. Because positivity may be conceptualized as a partly malleable trait, intervention programs could help shy children to cope with the pandemic improving their positive and optimistic orientation, especially as the COVID-19 situation is still

difficult and aversive. Such interventions may also be usefully applied to help shy children cope more generally with prolonged stressful situations.

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Table 1

Means (M) and Standard deviations (SD) of Study Measures by Country

	Total sample		UK		Mediterranean countries	
Variable	*M*	*SD*	*M*	*SD*	*M*	*SD*
Shyness	2.09	0.75	2.02	0.72	2.18	0.77
Positivity	3.94	0.63	3.84	0.60	4.06	0.64
Depression	1.21	0.25	1.20	0.24	1.22	0.26
Anxiety	1.99	0.60	1.90	0.63	2.10	0.53
Loneliness	1.57	0.57	1.65	0.60	1.48	0.52

Note. Mediterranean countries: Italy and Spain

Table 2

Inter-Correlations among Study Variables

	1	2	3	4	5	6	7	8
1. Shyness	-							
2. Positivity	-.32***	-						
3. Depression	.39***	-.57***	-					
4. Anxiety	.36***	-.24***	.48***	-				
5. Loneliness	.42***	-.53***	.62***	.41***	-			
6. Age	.05	-.12	.03	.01	.03	-		
7. Gender	.02	-.13	.03	-.03	-.02	-.03	-	
8. Country	.10	.18**	.05	.17**	-.15*	.02	.01	-

Note. *$p < .05$. **$p < .01$. ***$p < .001$. Gender: 0 (*girls*), 1 (*boys*). Country: 0 (*UK*), 1 (*Italy and Spain as Mediterranean countries*).

Table 3

Multivariate Regression Analysis Linking Shyness, Positivity, and Socio-Emotional Functioning

	Depression			Loneliness			Anxiety		
Variables	b (*β*)	SE	*p*-value	b (*β*)	SE	*p*-value	b (*β*)	SE	*p*-value
Age	-0.01 (-0.04)	0.01	.44	-0.02 (-0.03)	0.03	.53	-0.02 (-0.04)	0.03	.47
Gender	-0.03 (-0.06)	0.02	.24	-0.10 (-0.09)	0.06	.09	-0.08 (-0.07)	0.07	.28
Country	0.06 (0.13)	0.03	.01	-0.11 (-0.10)	0.06	.07	0.21 (0.18)	0.08	.01
Shyness	0.07 (0.20)	0.02	.001	0.23 (0.30)	0.05	<.001	0.23 (0.29)	0.06	<.001
Positivity	-0.19 (-0.47)	0.02	<.001	-0.37 (-0.40)	0.05	<.001	-0.17 (-0.18)	0.07	.01
Shyness × Positivity	-0.12 (-0.26)	0.02	<.001	-0.10 (-0.09)	0.05	.04	--- ---	---	---

Note. Gender: 0 (*girls*), 1 (*boys*). Country: 0 (*UK*), 1 (*Italy and Spain as Mediterranean countries*). In the final multivariate regression model, depression was positively associated with anxiety ($r = .36$, $p < .001$) and loneliness ($r = .43$, $p < .001$). Loneliness and anxiety were positively related among them ($r = .29$, $p < .001$).

Figure 1

The Moderating Role of Positivity in the Link between Shyness and Depression

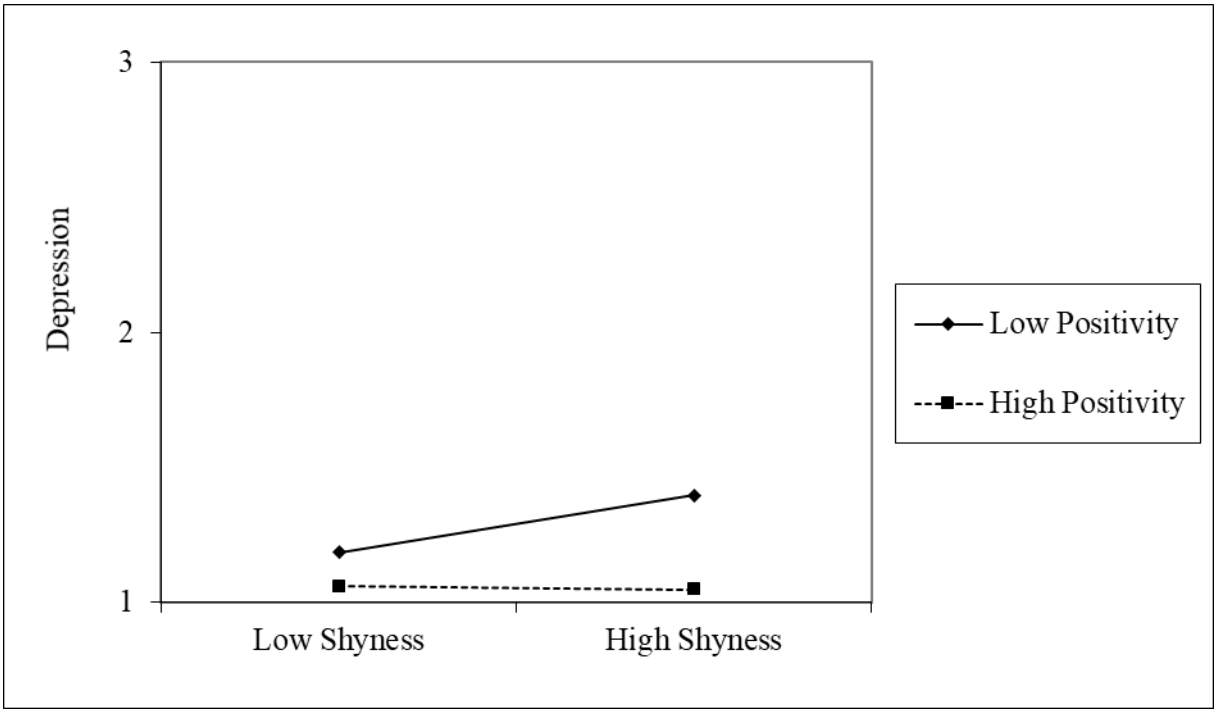

Figure 2

The Moderating Role of Positivity in the Link between Shyness and Loneliness