conclusion. These results suggest that some participants were able to use their time at home for studying, notwithstanding the fact that most of their time was devoted to using the Internet and/or gaming. It may imply that studying at home, including time spent on online educational activities, worked better than studying at school for some of these treatment seekers.

This study suggests that social restrictions, including stay-home measure due to the COVID-19 pandemic, have negatively affected Internet use and gaming behavior among treatment seekers. However, this situation may also have provided an environment in which socially isolated treatment seekers were able to study more at home. This study was retrospective in design and focused only on treatment seekers. In addition, the small number of questions in the questionnaire and limited number of study participants did not allow for detailed data analysis (e.g., severity of GD/EUIG and the comorbidity of the participants). Further studies on other subject groups, including the general population and students, using a prospective design are warranted.

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Disclosure statement
All authors report no financial conflict or other relationships relevant to the subject of this article.

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Supporting information
Additional Supporting Information may be found in the online version of this article at the publisher’s web-site:

Table S1. Change in the level of functional impairment due to Internet use and gaming between February 2020 and the period of 30 days prior to the survey (stay-home period).

Confidence in coping with COVID-19 and its related factors among the public in Taiwan

Fig. 1 Average daily hours spent on the Internet, smartphone, social network sites (SNS), online gaming, offline gaming, and video viewing in (---) February 2020 and (---) the 30-day period prior to the survey (stay-home period). The majority of participants used different applications simultaneously and so the figures for time spent on SNS, online gaming, and video viewing did not sum up to the time spent on the Internet. **P < 0.01, ***P < 0.001.

Conclusion
Confidence in coping with respiratory infectious diseases (RID) has an influence on the coping strategies that people may use during a pandemic. A study in Hong Kong demonstrated that elderly individuals who had greater confidence were more likely to adopt authority-suggested preventive behaviors during the severe acute respiratory syndrome (SARS) pandemic.1 We were interested in how confident the people living in Taiwan were in coping with coronavirus disease 2019 (COVID-19) and what factors might relate to the levels of confidence during the COVID-19 pandemic. This online survey study on COVID-19 in Taiwan used a Facebook advertisement from 10 to 23 April 2020 to recruit participants who were
aged ≥20 years and living in Taiwan. The disclosure of the study was listed on the first page of the online survey, and participants voluntarily answered the questionnaires if they agreed. We used the following question, adapted from the questionnaire on risk perception of an RID outbreak, to assess how confident respondents were in coping with COVID-19: “How confident are you that you can cope well with COVID-19?”² The question was rated from 1 (not confident at all) to 5 (very confident). Those who scored 1 or 2 were identified as having a low level of confidence in coping with COVID-19, and those with 4 or 5 were identified as having a high level of confidence. The definition of ‘confidence’ in our study is comparable to self-efficacy, representing the individuals’ beliefs that they have the ability to do specific tasks in the future.³ We also collected data on the respondents’ age, sex, occupational background (health-care worker or not), self-reported mental and physical health status before the COVID-19 pandemic,⁴ risk perception of COVID-19,⁵ adequacy of resources and support against COVID-19, and perceived social support (Table S1). This study was approved by the Institutional Review Board of Kaohsiung Medical University Hospital and followed the provision of the Declaration of Helsinki.

In total, the data of 1970 respondents were analyzed. Of them, 268 (13.6%) respondents reported a low level of confidence, 751 (38.1%) of them replied neutral, and 951 (48.3%) had a high level of confidence in coping with COVID-19. The reliability and validity tests for the above measurements were estimated, indicating satisfactory as acceptable range (Table S1–S3). We used stepwise linear regression to examine the factors related to the level of confidence (Table 1). The results indicated that multidimensional factors were significantly associated with a higher level of confidence in coping with COVID-19, including individual factors (younger age, being male or transgender, being health-care workers, better self-reported mental and physical health before the COVID-19 pandemic), COVID-19-specified factors (lower risk perception of COVID-19, having sufficient basic protective equipment, information about COVID-19, financial support and medical resources), and social factors (higher perceived social support). We also used a bootstrapping multiple linear regression with 5000 bootstrap samples to verify the results from the above stepwise multivariate linear regression. The results demonstrated that the same patterns of the factors significantly related to the level of confidence in coping with COVID-19 (Table S4).

A relatively low proportion (13.6%) of respondents reported low confidence in coping with COVID-19, which might result from timely border control, application of big data analytics, and experienced teams of officials in Taiwan. Taiwan experienced a severe outbreak of SARS.⁵

| Table 1. Factors that were associated with the level of confidence in coping with COVID-19 examined by stepwise multivariate linear regression (n = 1970) |
|---|---|---|---|---|---|
| Predictors | Mean | SD | β | t | 95%CI | P |
| Age (years) | 37.81 | 10.80 | -0.05 | -2.23 | -0.01, <0.001 | 0.026 |
| Risk perception of COVID-19 | 19.66 | 4.78 | -0.34 | -16.64 | -0.07, -0.05 | <0.001 |
| Perceived social support | 8.59 | 2.01 | 0.10 | 5.16 | 0.03, 0.06 | <0.001 |
| Self-reported physical health | 2.05 | 0.91 | 0.06 | 2.90 | 0.02, 0.10 | 0.004 |
| Self-reported mental health | 2.36 | 0.96 | 0.10 | 4.39 | 0.05, 0.12 | <0.001 |
| Sex | | | | | | |
| Female | 1305 | 66.2 | Ref. | | | |
| Male | 650 | 33.0 | 0.08 | 4.29 | 0.08, 0.22 | <0.001 |
| Transgender | 15 | 0.8 | 0.05 | 2.53 | 0.11, 0.84 | 0.012 |
| Education level | | | | | | |
| Low (high school or below) | 218 | 11.1 | Ref. | | | |
| High (college or above) | 1752 | 88.9 | 0.01 | 0.23 | — | 0.817† |
| Health-care workers | | | | | | |
| No | 1324 | 67.2 | Ref. | | | |
| Yes | 646 | 32.8 | 0.05 | 2.53 | 0.02, 0.16 | 0.011 |
| Sources and support against COVID-19 | | | | | | |
| Basic equipment | | | | | | |
| Insufficient | 533 | 27.1 | Ref. | | | |
| Sufficient | 1437 | 72.9 | 0.06 | 2.80 | 0.04, 0.20 | 0.005 |
| Information about COVID-19 | | | | | | |
| Insufficient | 194 | 9.8 | 0.05 | 2.12 | 0.01, 0.25 | 0.034 |
| Sufficient | 1776 | 90.2 | 0.05 | 2.12 | 0.01, 0.25 | 0.034 |
| Financial support | | | | | | |
| Insufficient | 506 | 25.7 | Ref. | | | |
| Sufficient | 1464 | 74.3 | 0.08 | 3.65 | 0.07, 0.24 | <0.001 |
| Medical resources | | | | | | |
| Insufficient | 425 | 21.6 | Ref. | | | |
| Sufficient | 1545 | 78.4 | 0.11 | 4.38 | 0.12, 0.31 | <0.001 |
| Mental support sources | | | | | | |
| Insufficient | 411 | 20.9 | Ref. | | | |
| Sufficient | 1559 | 79.1 | -0.01 | -0.54 | — | 0.592† |

†Excluded from stepwise regression.
CI, confidence interval.
which made many Taiwanese people vigilant against COVID-19 and this has aided in COVID-19 prevention.

Higher social support may decrease uncertain and fearful feelings in the pandemic and increase confidence in coping with COVID-19. However, the familiar ways to interact with and provide social support to one another may be interrupted during a pandemic. Health professionals should develop alternative ways, such as telephone visits, to provide social support for the public, especially for those who are quarantined.

Sufficient protective equipment, information about COVID-19, financial support, and medical resources were significantly associated with higher confidence. Research also found that up-to-date and accurate health information about COVID-19 and sufficient protective equipment were associated with less psychological impact. How to deliver information, protective equipment, and resources to all people requires planning ahead of time.

Research reported that current physical symptoms and poor self-rated health status were significantly associated with greater psychological distress. This study found that better self-rated mental and physical health before the COVID-19 outbreak were associated with higher confidence, indicating that good health status may contribute to confronting the unanticipated pandemic with confidence.

Women had lower confidence in coping with COVID-19 than men and transgender participants. A study in Spain also found that women reported more severe distress and loneliness than men during the COVID-19 lockdown period. Older people have poorer clinical features and prognoses than young people if infected with COVID-19. Older people may also have more difficulties in obtaining the information necessary to cope with the pandemic. These disadvantages may damage older people’s morale and confidence. Health-care workers may have more abundant knowledge about COVID-19 and thus have higher confidence in coping with the pandemic than non-health-care workers.

In conclusion, we found multidimensional factors related to the level of confidence in coping with COVID-19. Health professionals should take these factors into consideration when developing strategies for enhancing people’s confidence in coping with RID in future.

Disclosure statement
All authors declare that they have no conflicts of interest.

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Supporting information
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Table S1. Measures used in this study and exploratory factor analysis.

Table S2. Confirmatory factor analysis for risk perception of COVID-19.

Table S3. Indices of goodness-of-fit index for confirmatory factor analysis at risk perception of COVID-19.

Table S4. Factors related to confidence in coping with COVID-19 verified with multivariate linear regression with 5000 bootstrapping samples.

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Impact of Italian lockdown on Tourette’s syndrome patients at the time of the COVID-19 pandemic

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In early 2020, the rapid spread of SARS-CoV-2 from China to the rest of the world produced a global pandemic affecting over 100 countries. To limit viral transmission and mitigate the disease burden, most countries adopted lockdown measures. The Italian outbreak emerged in the north of the country (Lombardy, Veneto, and Emilia-Romagna regions) in late February 2020, and later spread to the rest of the peninsula. A nationwide school closure was ordered on 5 March, and students and teachers have been required to switch to distance-learning programs. Disruption of daily routines and social isolation may have deleterious effects on children’s health, especially for those with mental health needs and pre-existing chronic diseases.

Chronic tic disorders (CTD) and Tourette’s syndrome (TS) are childhood-onset neurodevelopmental disorders often associated with...