

# Impact of COVID-19 on mental health: a comparison between people with and without a disability



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# Research team members

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- Consultants: Kimi Chung and Taiwan Disabled People's Organisation on Independent Living

# Inspired by

# Kimi Chuang, wheelchair user, 15/03/2020, shared on Facebook

- *Before the pandemic, we were different. In the face of viruses, everyone has an equal chance of becoming infected.*
- *Under the pandemic, some people could not endure being isolated at home for 14 days. Mass media showed people in Wuhan who were shouting while being quarantined. However, how many disabled people have been isolated from society and left behind by the system? We have been quarantined for our entire life, but such isolation has rarely been seen or given sympathy.*

- People are satisfied with the government measures in response to the Pandemic (94% gave positive approval rating for the Minister's effective efforts in controlling the pandemic) (Chen, 2020)
  - However, disabled people are not satisfied with the measures in relation to disabled people (for details, see Chun-Chieh's PPTs)

# Hypothesis

1. During the pandemic, disabled people are less likely than non-disabled people to report an impact on mental health.
2. Disabled people are less satisfied than non-disabled people are with the government's measures in controlling the COVID-19 outbreak.
3. Participants' mental health is associated with their responses to the government's measures in controlling the COVID-19 outbreak.

## Study design

- Cross-sectional survey
  - Google Forms online survey, which took approximately 5-8 minutes to complete.



第 1 個區段，共 8 個

# 嚴重特殊傳染性肺炎（武漢肺炎）對您生活的影響

您好：

首先謝謝您接受我們的邀請，願意參與我們的研究。

本問卷只需要花您三到五分鐘，我們誠摯地邀請您完成此份問卷。結果僅會用於學術資料分析，謹遵循匿名與保護原則，請您放心填答。

此份研究由國立陽明大學衛生福利研究所（周月清教授）與國立高雄師範大學性別教育研究所（陳伯偉副教授）合作進行，問卷已經過國立陽明大學研究倫理委員會的審查通過。（IRB編號：YM109059E）

如有任何疑問，請聯絡周月清教授辦公室 電話：(02)2826-7182。

- **Participants:** disabled and non-disabled people who were aged 20 or older
  - Convenience and snowball sampling.
  - 324 disability and 1985 non-disability completed the questionnaires and analyzed.
- **Data were collected between 17 to 26 April.**
  - Taiwan: 1<sup>st</sup> day of the survey, 395 cases confirmed (6 deaths)
    - Worldwide: 2.2 million confirmed cases and 142,548 deaths
  - Taiwan: During our data collection, a cluster infection on a national navy boat added 25 confirmed cases;
  - Taiwan: when the survey closed down, 429 confirmed cases (343 travel-related infections, 55 local infections and 6 deaths).

# Measures

- **Socio-economic and demographic data:** gender, age, levels of education marital status, monthly income, health. disability status, levels of satisfaction with the government's.
- Mental health :
  - ( 1 ) **Anxiety:** The State Anxiety Scale, 20 items (Spielberger et al., 1983)
  - ( 2 ) **Well-being:** WHO-5 Well-being Index, 5 items
    - Before pandemic ( T1 ) - During pandemic ( T2 )
- **An Open-ended question** (at the end of the questionnaires):
  - 'During the epidemic, which part/parts of your life has/have been affected?'

**Table 1.** Characteristics of people with and without a disability

	People with a disability (n= 324)	People without a disability (n = 1985)	Z/T	p
<b>Variables</b>	N (%)	N (%)		
<b>Gender</b>			68.049	<0.001
Male	162 (50.0)	541 (27.3)		
Female	162 (50.0)	1444 (72.8)		
<b>Age groups (years)</b>			0.271	0.873
20-39	108 (33.3)	639 (32.2)		
40-59	167 (51.5)	1027 (51.7)		
≥60	49 (15.1)	319 (16.1)		
<b>Education</b>			72.299	<0.001
Below bachelor	132 (40.7)	410 (20.7)		
Bachelor	150 (46.3)	1002 (50.5)		
Above bachelor	42 (13.0)	573 (28.9)		

	People with a disability (n= 324)	People without a disability (n = 1985)	Z/T	p
<b>Income</b>			<b>123.438</b>	<b>&lt;0.001</b>
<10,000	110 (34.0)	294 (14.8)		
10,000~30,000	93 (28.7)	335 (16.9)		
30,001~50,000	71 (21.9)	672 (33.9)		
50,001~70,000	25 (7.7)	355 (17.9)		
>70,000	25 (7.7)	329 (16.6)		
<b>Health</b>			<b>48.092</b>	<b>&lt;0.001</b>
Bad + very bad	60 (18.5)	139 (7.0)		
So-so	125 (38.6)	805 (40.6)		
Good + very good	139 (42.9)	1041 (52.4)		
<b>Satisfaction towards government measures</b>			<b>10.054</b>	<b>0.002</b>
Not likely + very unlikely	42 (13.2)	153 (7.8)		
Likely + very likely	277 (86.8)	1806 (92.2)		

	People with a disability (n= 324)	People without a disability (n = 1985)	Z/T	p
<b>Satisfaction towards measures related disabled people</b>			<b>70.630</b>	<b>&lt;.001</b>
<b>Not likely + very unlikely</b>	136 (51.9)	263 (25.2)		
<b>Likely + very likely</b>	126 (48.1)	782 (74.8)		
<b>Anxiety [mean (S.D.)]</b>	55.4 (13.0)	57.3 (12.3)	-2.469	0.014
<b>Well-being</b>				
<b>Before the pandemic [mean (S.D.)]</b>	16.0 (5.3)	16.0 (4.8)	-0.214	0.831
<b>During the pandemic [mean (S.D.)]</b>	13.3 (5.4)	13.3 (5.0)	-0.075	0.940
<b>Well being Changed [mean (S.D.)]</b>	2.7 (5.0)	2.7 (4.3)	-0.151	0.880
<b>T</b>	-9.576	-28.198		
<b>P value</b>	<0.001	<0.001		

**Table 2.** Comparison of mental health and the government's measures between two groups (n= 2309 )

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Variable	People with a disability	People without a disability	<i>F</i>	<i>p</i>
	( <i>n</i> =324)	( <i>n</i> =1985)		
	Mean (S.D.)	Mean (S.D.)		
Anxiety	55.4 (13.0)	57.3(12.3)	10.17	0.001
Well-being changed	2.7(5.0)	2.7(4.3)	0.18	0.674
Satisfaction towards government measures	3.2(0.7)	3.4(0.7)	4.99	0.026
Satisfaction towards government measures related disabled people	2.5(0.8)	2.9(0.6)	66.74	<0.001

*Note:* Covariates were the participants' gender, age, education, income and health.

**Table 3.** Multiple linear regression analysis for factors associated with anxiety

Independent variables	Model 1		Model 2		Model 3	
	People with a disability <sup>a</sup> ( <i>n</i> =324)		People without a disability <sup>b</sup> ( <i>n</i> =1985)		All participants <sup>c</sup> ( <i>n</i> =2309)	
	$\beta$	<i>p</i>	$\beta$	<i>p</i>	$\beta$	<i>p</i>
<b>Gender</b>						
Men	Ref		Ref		Ref	
Women	0.04	0.438	0.04	0.072	0.04	0.056
Age	-0.03	0.614	-0.02	0.461	-0.02	0.423
Education	-0.04	0.522	-0.02	0.348	-0.03	0.240
Income	-0.01	0.855	0.05	0.032	0.05	0.049
Health	-0.24	<0.001	-0.19	<0.001	-0.20	<0.001
Satisfaction towards government measures	-0.01	0.838	-0.12	<0.001	-0.10	<0.001
Satisfaction towards measures related disabled people	-0.11	0.070	-0.04	0.144	-0.05	0.031
<b>Whether having a disability</b>						
Without a disability					Ref	
With a disability					-0.08	<0.001

Note: <sup>a</sup>Seven independent variables. <sup>b</sup>Seven independent variables. <sup>c</sup>Eight independent variables; whether having a disability was included. Age, education, income, health, satisfaction to government measures were continuous variables.

**Table 4.** Multiple linear regression analysis for factors associated with well-being changed

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Independent variables	Model 1 Disabled people <sup>a</sup> ( <i>n</i> =324)		Model 2 People without a disability <sup>b</sup> ( <i>n</i> =1985)		Model 3 All participants <sup>c</sup> ( <i>n</i> =2309)	
	$\beta$	P	$\beta$	P	$\beta$	P
<b>Gender</b>						
Men	Ref		Ref		Ref	
Women	-0.11	0.054	0.02	0.439	-0.00	0.839
Age	0.19	0.002	0.09	<0.001	0.11	<0.001
Education	0.14	0.019	-0.03	0.215	-0.00	0.903
Income	-0.10	0.103	0.04	0.104	0.01	0.543
Health	-0.03	0.657	-0.05	0.041	-0.04	0.041
Satisfaction to government measures	0.06	0.319	-0.07	0.004	-0.05	0.028
Satisfaction to measures related to disabled people	-0.11	0.083	-0.04	0.112	-0.05	0.030
<b>Whether having a disability</b>						
Without a disability					Ref	
With a disability					-0.02	0.351

Note: <sup>a</sup>Seven independent variables. <sup>b</sup>Seven independent variables. <sup>c</sup>Eight independent variables; whether having a disability was included. Age, education, income, health, satisfaction to government measures were continuous variables.

# Discussion

- Table 1 & 2: During the pandemic, **disabled people's anxiety was lower than that of people without a disability ( $p < 0.001$ )**, even with adjustments in individual variables (age, gender, education, income and health).
- This finding indicates that in Taiwan society, **disabled people are accustomed to being excluded from social activities and maintaining 'social distancing' from people** and communities both physically and socially (Chou et al., 2019).
- However, disabled people during a pandemic, particularly those having intensive support needs, may be impacted more significantly than non-disabled people (Campbell et al., 2009; WHO, 2020b).

- Table 1: Regardless of disability status, all participants' levels of well-being had negatively and significantly changed during the pandemic ( $p < 0.001$ ).
- Table 3 shows that the participants who reported a **higher level of health** ( $p < 0.001$ ) and **satisfaction with the government's** responses to the pandemic ( $p < 0.001$ ), including disabled people ( $p < 0.05$ ), **were more likely to show lower levels of anxiety.**
- As a result, **hypothesis 1 was supported** in terms of differences in levels of anxiety but not for well-being between the two groups.

- Participants without a disability were highly satisfied with the government's responses to the pandemic as shown by their 92.2% positive responses to the measures (Table 1). However, we found significant differences between the two groups regarding satisfaction with the government's measures ( $p < 0.05$ ).
- This outcome implies that while the Taiwan government's measures in controlling the pandemic have earned praise both nationally and internationally, the needs of disabled people were not sufficiently taken into account. Therefore, hypotheses 2 and 3 were supported.

# Limitations

- **Cross-sectional survey cannot reveal causal relationships** between independent variables.
- **Self-administered online**, the participants were limited to those who had internet access.
- The participants were invited through email and social media, they might be mostly from the research team members' social networks.
- The data were collected after Taiwan's high peak of infected cases was confirmed in March. Any generalizations of the findings in this study should take all of these limitations into consideration.

# Conclusion

- The qualitative data in this study found that during the pandemic, the participants experienced frustration because of strict constraints on their mobility and engagement in social activities. **However, such restrictions and isolation are common for many disabled people.**
- The findings of the current study show that during the pandemic, **disabled people may have been mentally stronger than non-disabled people, even if their death rates were higher** (Campbell et al., 2009; WHO, 2020b).
- The findings indicate that disabled people have grown accustomed to the experience of social exclusion from society, while restrictions on mobility and social isolation are difficult for non-disabled people to experience.
  - Thus the pandemic disruption seems to mirror society's longstanding tradition of **disregarding disabled people's needs and well-being and by default requiring them to engage in social distancing pandemic or no pandemic.**