

Mental health condition of vocational high school students during COVID-19 pandemic in Indonesia

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ABSTRACT

This study aimed to determine the mental health condition of vocational high school students in Indonesia during the pandemic using the Rasch analysis method with the DASS-42 instrument. A total of 1381 vocational students in Indonesia participated in this study through the questionnaire. The results showed that more than 60 % of Indonesian vocational students experienced mental health problems during the COVID-19 pandemic due to social restrictions, and online learning. Furthermore, the findings of this study showed that mental health issues were mostly experienced by female students, firstborn children, and students who live in rural areas, and from middle-income backgrounds.

1. Introduction

COVID-19 has had a significant global impact on many aspects of human life (Garretsen et al., 2022). In fact, various research surveys conducted in the last year have reported that COVID-19 has a significant relationship to mental health problems such as fatigue, stress, depression, and anxiety, as seen in China (Zhang et al., 2022), Korea (Lee et al., 2022), Italy (Napoli, 2022), and the United States, which was assisted by the US Centers for Disease Control and Prevention (CDC) (Kobayashi et al., 2022). This has affected all levels of society, including students (Asanov et al., 2021).

The impact of COVID-19 on high school and college students comes from the conversion of the face-to-face learning system to online learning (Ong et al., 2022). Learning activities that take place at home trigger student dissatisfaction due to their limited interactions. Problems also arise particularly among vocational school students who are more oriented towards practical courses rather than theoretical (Sayidani et al., 2016). Consequently, the difficulty of having practical courses done from home with limited interactions can interfere with the students' learning process.

Therefore, this study aimed to determine the mental health condition of vocational students in Indonesia due to online learning challenges during the pandemic. This research was conducted in the hope that it would lead to more effective educational policies for vocational

students.

2. Material and methods

This study was a cross-sectional study using a questionnaire survey (Edwards et al., 2021; Nabi et al., 2022; Shwethashree et al., 2022). Male and female students enrolled in public and private vocational high schools (years 10–12) in Indonesia qualified as respondents for this study, where convenience sampling was applied.

Students' mental health was measured using the DASS-42 instrument, a self report consisting of 42 items, with three constructs (depression, anxiety, and stress), each with 14 items. The instrument was to gauge the students' emotional states of depression, anxiety, and stress (An et al., 2022; Lovibond and Lovibond, 1995). Separate statistical analyses of the DASS-42 subtests for depression, anxiety, and stress were conducted using the Winsteps 3.75.0 software of the Rasch model. The first stage of analysis was data cleaning, and data validation (Widhiarso and Sumintono, 2016). The depression subtest yielded 85 misfit and 246 outliers, with 94 misfits and 99 outliers for the anxiety subtest, and 112 misfits and 0 outliers for the stress subtest (Boone and Staver, 2020; Bond and Fox, 2015). The misfit and outlier data were removed from the initial data (n = 1381), leaving 1050 data in the depression subtest, 1188 in the anxiety subtest, and 1269 in the stress subtest. Table 1 and Table 2.

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Table 1
Demographic Characteristics of Participants Based on Construct.

	Depression (N = 1050)	Anxiety (N = 1188)	Stress (N = 1269)
<i>N (%)</i>			
Gender			
Male	473 (45)	555 (47)	620 (49)
Female	577 (55)	633 (53)	649 (51)
Living Situation			
With Parent(s)	970 (92,4)	1098 (92)	1175 (92,6)
With Family	65 (6,2)	73 (6)	77 (6)
In Dorms/Boarding Rooms	15 (1,4)	17 (1)	17 (1,4)
Domicile			
City	113 (10,8)	128 (11)	127 (10)
Village/Rural	937 (89,2)	1060 (89)	1142 (90)
Parental Income (IDR)*			
0–500,000	321 (30,6)	379 (32)	406 (32)
500,001–2500,000	560 (53,3)	619 (52)	678 (53,4)
>2500,000	169 (16,1)	190 (16)	185 (14,6)
Birth Order			
1st or only child	459 (43,7)	521 (43,8)	575 (45,3)
2nd	344 (32,8)	389 (33)	435 (34,2)
3rd onwards	247 (23,5)	278 (23,4)	259 (20,4)

* 1 US\$ = IDR 15,000

2.1. Research procedure

This study received approval from the ethics committee of the first author’s affiliated university. The respondents in this study were male and female students currently studying in public and private vocational high schools throughout Indonesia. Data was collected from August to October 2021, and the survey was distributed through a Google Form that was forwarded through the schools’ principals and student organisations. On the first page of the research sheet, informed consent was requested and received; and anonymity was applied to ensure their confidentiality.

3. Result and discussion

This study used a Rasch model analysis to examine the empirical categorisation of the DASS instrument (Boone and Staver, 2020). The results obtained were the different levels of depression, anxiety, and stress among vocational high school students based on the person logit of each construct (Bond and Fox, 2015).

The results showed (Fig. 1 below) that in the depression subtest, 4.19 % of the students were in the extremely severe depression category, 15.05 % of the students were in the severe depression category, 66.6 % of the students were in the moderate depression category, and 14.05 % of the students were in the mild depression category. In the anxiety subtest, 2.52 % of the students were in the extremely severe anxiety category, 12.6 % of the students were in the severe anxiety category, 64.9 % of the students were in the moderate anxiety category, 14.14 % of the students were in the mild anxiety category, and 5.8 % of the students were in the normal category. In the stress subtest, 2.36 % of the students were in the extremely severe stress category, 13.4 % of the students were in the severe stress category, 63.04 % of the students were in the moderate stress category, 19.78 % of the students were in the mild stress category, and 1.41 % of the students were in the normal category.

This data on the mental health condition of Indonesian vocational high school students showed that more than 60 % of the students experienced moderate levels of depression, anxiety, and stress, implying that most vocational students experienced mental health issues during the COVID-19 pandemic. This situation mirroring that also happened in other countries (see Fuse-Nagase, 2022; Pacheco and Toncel, 2022; Tandon, 2021). In general, vocational institutions demand mastery of certain skills, which is usually accomplished through practical courses (Erliana et al., 2021). That is why the transition to online learning activities, which limits interactions and makes learning monotonous,

Table 2
Descriptive Statistics of Vocational Students’ Mental States.

	Depression (%)			Anxiety (%)			Stress (%)			
	Mi	Mo	S	Mi	Mo	S	N	ES	S	
Gender										
M	81 (7,71)	312 (29,71)	67 (6,38)	67 (5,63)	361 (30,38)	25 (2,10)	13 (1,02)	3 (0,25)	52 (4,09)	4 (0,31)
F	67 (6,38)	338 (36,95)	91 (8,66)	101 (8,50)	410 (34,51)	125 (10,52)	5 (0,39)	27 (2,27)	118 (9,29)	26 (2,04)
Domicile										
C	12 (1,14)	77 (7,33)	14 (1,33)	21 (1,76)	72 (6,06)	19 (1,59)	0 (0)	9 (0,75)	17 (1,33)	8 (0,63)
V	136 (12,95)	623 (59,33)	144 (13,71)	147 (12,37)	699 (58,83)	131 (11,02)	18 (1,41)	21 (1,76)	153 (12,05)	22 (1,73)
Parental Income										
1	43 (4,09)	212 (20,19)	53 (5,04)	62 (5,13)	231 (19,44)	54 (4,54)	6 (0,47)	8 (0,67)	248 (19,54)	8 (0,63)
2	81 (7,71)	361 (34,38)	95 (9,04)	80 (6,73)	415 (34,93)	72 (6,06)	11 (0,86)	14 (1,17)	420 (33,09)	19 (1,49)
3	24 (2,28)	117 (11,14)	20 (1,90)	26 (2,18)	130 (10,94)	19 (1,59)	1 (0,07)	8 (0,67)	141 (11,11)	3 (0,23)
Birth Order										
1 st	64 (6,09)	302 (28,76)	74 (7,04)	74 (6,22)	352 (29,62)	57 (4,79)	12 (0,94)	9 (0,75)	67 (5,27)	15 (1,18)
2 nd	45 (4,28)	236 (22,47)	47 (4,47)	49 (4,12)	253 (21,29)	53 (4,46)	4 (0,31)	14 (1,17)	271 (21,35)	10 (0,78)
3 rd , etc.	39 (3,71)	164 (15,61)	35 (3,33)	45 (3,78)	180 (15,15)	26 (2,18)	2 (0,15)	7 (0,58)	163 (12,84)	5 (0,39)

N = Normal; Mi = Mild; Mo = Moderate; S = Severe; ES = Extremely Severe

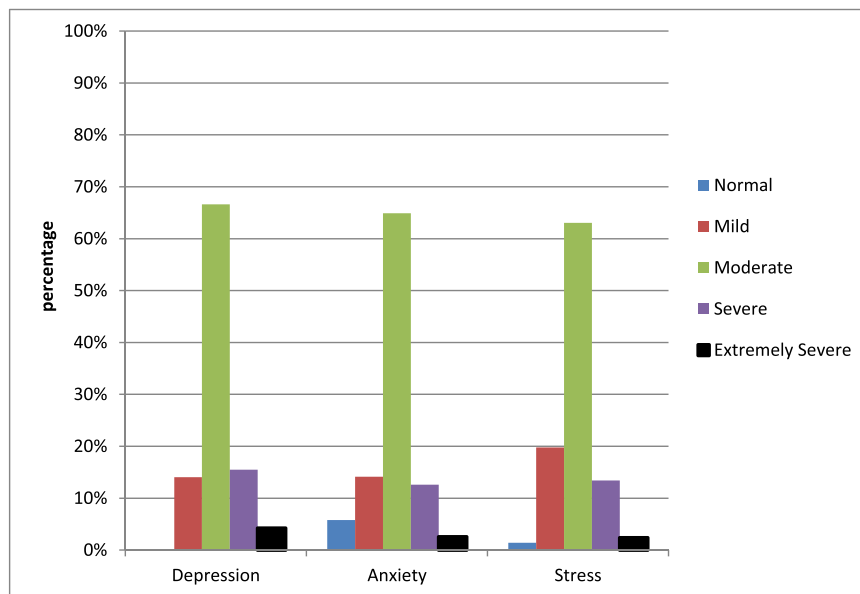


Fig. 1. Results of Depression, Anxiety, and Stress Subtests.

resulted in mental health problems among vocational students (Argaheni, 2020).

The descriptive statistics on the mental health condition of vocational students showed that, in this study, female students were more likely than male students to have mental health issues. This is consistent with previous studies, which found that females were more susceptible to depression (Nazneen, 2018), anxiety (Suminta and Fatma, 2018), and stress (Rohmatillah and Kholifah, 2021) than males.

Based on the descriptive statistics table, students who reside in rural areas with a middle-income status, and first-child/only-child status have higher levels of depression, anxiety, and stress than students who reside in urban areas with higher parental income, and second/third/late-child status. This is consistent with previous findings, which show that financial status, in terms of education level, wealth, and employment status, can influence a person's mental health (Dewi et al., 2020). Similarly, according to Zarkasi et al. (2022), people who lived in rural areas had a higher tendency to suffer depression, anxiety, and stress. On the other hand, regarding birth order, Pratama and Rahayu (2014) stated that loneliness in an only child can lead to relationship dissatisfaction, loss of self-esteem, depression, or even suicide. It is also known that only-children and firstborns are more susceptible to mental health problems, including anxiety, and stress (Fukuya et al., 2021; Subroto et al., 2017).

Besides that, there are numerous other factors that can cause mental health problems in students. Student depression during the pandemic could have been caused by the implementation of the COVID-19 quarantine that reversed the positive effect of social support (Pineda et al., 2022; Nuryana et al., 2022). Previous studies also found that anxiety and stress can be caused by the challenges encountered during pandemic online learning, such as difficulty doing assignments, not understanding learning materials, and unstable internet networks (AlAzzam et al., 2021; Anggrini, 2021).

4. Conclusion

Students' mental health conditions in this study have been shown to be impacted by online learning as a result of the COVID-19 pandemic. The results indicated that at least 60 % of the students fall into at least the moderate range of depression, anxiety, and stress. In addition, the female students in this study were more likely than male students to have depression. Finally, according to the findings of the descriptive

statistics, students who were the firstborn or only child, female, residing in rural areas, or from middle-class families, were more likely to encounter mental health issues than other student populations.

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Declaration of Competing Interest

None.

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