

Analysis of Social Distancing Variables to Prevention of Positive Cases of Covid-19 Using Path Analysis Method

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Abstract. Prevention of Covid-19 is important for research in order to reduce positive cases that occur in Indonesia. One of the popular research is using analytical method. The purpose of this study was to determine the relationship between work activity behavior, government and community regulations and social distancing as a mediator in preventing an increase in Covid-19 cases in West Java. This research method uses path analysis model. Social distancing variables directly have a positive and significant impact on preventing positive cases of Covid-19, meaning that with social distancing the spread of the Covid-19 virus can be reduced. The effect of social distancing on the prevention of positive cases of Covid-19 is 87% and the remaining 13% is due to the influence of other factors. Based on the four variables used as predictors of the prevention of Covid-19 cases, the social distance variable is the strongest variable that affects the prevention of positive cases of Covid-19 compared to the other three variables. Social distancing is very important to reduce the spread of Covid-19 cases. The implication of this research shows that awareness of people's behavior by keeping a distance is very important to prevent the Covid-19 virus.

Keyword: Covid-19 Cases, Independent and Dependent Variables, Multiple Regression, Path Analysis

Abstrak. Pencegahan Covid-19 menjadi penting untuk dilakukan penelitian agar dapat mengurangi kasus positif yang terjadi di Indonesia. Salah satu penelitian yang populer adalah menggunakan metode analisis. Tujuan dari penelitian ini adalah untuk mengetahui hubungan antara perilaku aktivitas kerja, peraturan pemerintah dan masyarakat dengan social distancing sebagai mediator dalam mencegah peningkatan kasus Covid-19 di Jawa Barat. Metode penelitian ini menggunakan model path analisis. Variabel social distancing secara langsung berdampak positif dan signifikan terhadap pencegahan kasus positif Covid-19, artinya dengan social distancing penyebaran virus Covid-19 dapat dikurangi. Pengaruh social distancing terhadap pencegahan kasus positif Covid-19 sebesar 87% dan sisanya 13% karena pengaruh faktor lain. Berdasarkan empat variabel yang digunakan sebagai prediktor pencegahan kasus Covid-19, variabel jarak sosial merupakan variabel terkuat yang mempengaruhi pencegahan kasus positif Covid-19 dibandingkan ketiga variabel lainnya. Variabel social distancing sangatlah penting untuk mengurangi penyebaran kasus Covid-19. Implikasi dari penelitian ini menunjukkan bahwa kesadaran perilaku masyarakat dengan menjaga jarak sangatlah penting untuk mencegah virus Covid-19.

Kata Kunci: Kasus Covid-19, Regresi berganda, Path Analisis, Variabel Independen dan dependen

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1. Introduction

The increasing of positive Covid-19 cases in Indonesia is influenced by several variables including normal work activity, the absence of clear government regulations, lack of discipline in carrying out health protocols, and especially awareness of maintaining social distance [1]. In terms of lawful approaches, Indonesia has taken after the correct steps concurring to the bearings from the World Wellbeing Organization (WHO), but is still not successful in its usage, it can be seen that there are still numerous individuals who don't apply health protocols, both exclusively and by companies that don't notice the arrangement. There are still many people who crowd and leave their homes by not following the procedures for preventing the speard of Covid-19, besides that there are also many companies that should not operate and are still operating as usual [2]. *Pembatasan Sosial Berskala Besar* (PSBB) or Large-Scale Social Confinements are the finest steps and can run as they ought to, and financial development and budgetary soundness can be kept up, so that a few financial action in Indonesia can still be carried out, indeed with social limitations more rigid and gigantic [3].

Based on these phenomena, it is suspected that the regulations issued by the government, especially in West Java Province, have not been followed up quickly and precisely to be disseminated to the entire community. This socialization becomes very strategic in every policy implementation. Moreover, policies relating to the acceleration of prevention of the spread of the Covid-19 pandemic, absolutely there should not be a single community that is not educated about handling efforts because it is related to the safety of the human soul.

1.1. Regression Model

Way examination is an expansion of the relapse show, which is utilized to test the reasonableness of the relationship lattice against two or more causal models being compared by the analyst. The Way Investigation Show is more often than not portrayed within the frame of a circle and an bolt in which the single-headed bolt demonstrates the causative particle. Relapse was performed for each variable within the demonstrate as subordinate on the other for which the show demonstrated a cause. The relapse weights anticipated by the show are compared with the watched relationship particle networks for the variables, and a measurable fit ic is calculated. The foremost suitable of two or more models are chosen by the analyst as the most excellent show for hypothesis headway [4]

The way show may be a chart that relates the free, middle, and subordinate factors. The single bolt demonstrates the cause between the exogenous or middle of the road and subordinate factors [5]. The bolts too relate the blunder terms to their individual endogenous factors. The twofold bolts show the relationship between sets of exogenous factors. Several times the width of the bolt within the way demonstrate drawn with a width corresponding to the supreme greatness of the comparing way coefficient can be seen in Figure 1.

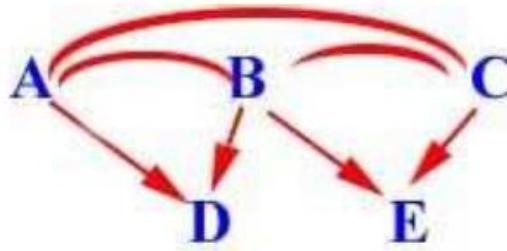


Figure 1 Path Analysis Models (Source: [4])

The show in Figure 1 is one of the way examination models that contains a relationship between the autonomous factors A, B, and C with the subordinate factors D and E. From the demonstrate in Figure 1, it can be deciphered that the primary autonomous variable D is impacted by the autonomous factors A and B, and the moment autonomous variable E is impacted by free factors B and C.

Exogenous and endogenous factors. Exogenous factors within the way show are those with no clear cause (no bolts indicating to them, separated from the estimation mistake term). In the event that exogenous variables are connected, this can be shown by the double-headed bolt interfacing them. Endogenous factors, at that point, are those with the section bolt. Endogenous factors incorporate interceding causal and dependent variables. Endogenous variable mediations have causal bolts in and out within the way chart. NS subordinate variable as it were has an approaching bolt.

Through running Way Investigation utilizing AMOS with Greatest Probability Gauges on quantitative information gotten from 483 English instructors from Iran, a changed show was gotten in which appropriateness, extroversion, and emotionality were appeared to influence dialect instructor resistance by implication through work and instructing frailty. intelligent that features a coordinate impact on it. The most grounded way is from Work Frailty to Intelligent Instructing and Language Teacher Resistance (LTI) with negative relapse weights which implies that JI can harmed both. The discoveries of the current think about have suggestions for instructors and educator coaches, highlighting indicators of educator insusceptibility [6]. Collected information in five tests, three colleges, and two nations, $N = 875$, and performed a meta-analytic way examination. Self-efficacy was emphatically related to scholarly accomplishment over models, honesty and passionate steadiness were prescient of self-efficacy and execution in a few investigations, and the si [7]. Alludes to self-determination hypothesis (SDT), students' inspiration encompasses a solid relationship with scholastic execution. In SDT hypothesis, learning environment components too have a positive impact on learning inspiration and impact the fundamental mental needs for independence, relatedness, and competence. This social back show \rightarrow needs fulfillment \rightarrow inspiration \rightarrow learning results is called the common SDT show [8].

Academic motivation is one of the internal processes that include: a person's desire to optimize his efforts and his preferences in studying and his tasks. Motivation is also divided into 2, the first is intrinsic motivation, namely the need for achievement and the second is extrinsic motivation,

which includes fear of failure, socialization between friends, and expectations of others [9]. In the research of [10], they also used the path analysis method to develop the concept of oral health-related quality of life (OHRQoL) which has 4 dependent and 4 independent variables. Orderly mediation programs for government components have to be coordinated with person components to eventually achieve effective anticipation and control of the Covid-19 widespread within the community [11]. Examination of the relationship between student's discernments of the instructive setting and their learning approaches in three diverse learning situations agreeing to their educating organize (address or PBL problem-based learning) and the degree of educational programs integration [12].

1.2. Path Analysis

Way examination utilizing Structural Equation Modeling (SEM) was performed, and the comes about appeared that the pathways of mechanical development capability (T), human capital (O), and environment (E) were straightforwardly related to financial impacts, but for the way from human assets to breadth. esteem chain straightforwardly and in a roundabout way [13]. A way examination show was conducted in which the nearness of constant infection, age, and work had a coordinate impact on the physical quality of life and most profound sense of being had a coordinate impact on the mental quality of life. Social bolster intercedes the relationship between usefulness and mental quality of life, and in turn, usefulness intervenes the relationship between age and physical quality of life [14]. A show of perceptual maturing in Iranian seniors is displayed. The discoveries propose that trust contains a critical and positive affect on the discernment of maturing. The suggestions for clinical practice and research are talked about [15]. Way investigation may be a multivariate [16].

A comparison of impact measure and way examination appears that whereas the develops of the two models shown bigger impact sizes compared to the Hypothesis of Arranged Behavior develops, the third demonstrate clarified a bigger extent of fluctuation in Social Entrepreneurial Purposeful [17]. Social Bolster has the most prominent affect on Quality of Live (QoL). Giving all the necessities to back patients can offer assistance them adapt with issues and make strides their quality of life. Trouble contrarily influences QoL through Self-Management (SM) and it ought to be considered in mediation thinks about [18]. Way examination was calculated to distinguish the coordinate and backhanded impacts of situational, physiological, and mental components on weakness Fiery Bowel Malady based on the mid-range hypothesis of unsavory side effects conceptual system [19].

The show is portrayed within the frame of circles and bolts, where a single bolt speaks to "something that causes ". This research requires assumptions as in regression analysis. This path analysis technique is very sensitive to model specifications because errors in determining variables will affect the path coefficients used to assess the direct or indirect effect of a variable on the dependent variable. This path analysis technique is usually called a causal chain model which shows the existence of a causal model where the sequence of events ultimately leads to variations in the dependent/endogenous variable, as shown below. In the picture below, all

sequences of events X1, X2, X3, and Y go to Z. The following path model used in the study can be seen in Figure 2.

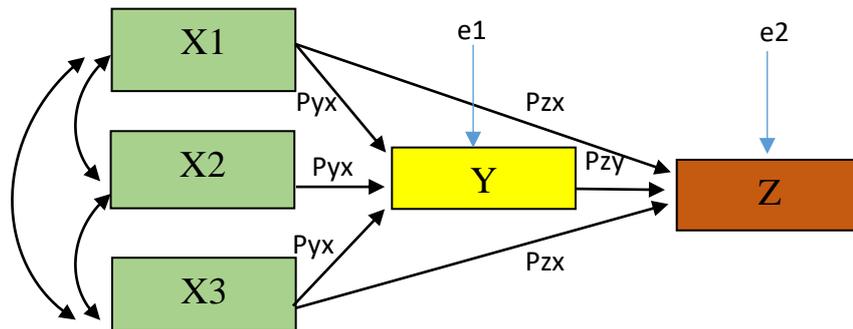


Figure 2 Partial and Simultaneous Research Path Model

Note:

- X1 = Exogenous Variable of Working Activity
- X2 = Exogenous Variable of Government Regulation
- X3 = Exogenous Variable of Community Behaviour
- Y = Exogenous Variabel of Social Distancing
- Z = Endogenous Variable of Positive Covid-19 Cases

Prevention of Covid-19 is important for research to reduce positive cases that occur in Indonesia, one of which is using the descriptive analysis method by calculating the distribution and percentage alone, not calculating how effective the variable for preventing Covid-19 cases [20], The research should be revealed by quantitative research using the Failure Mode Effect Analysis (FMEA) method [21]. Another research is a study analytical observational by design study cross-section, the variable used is the relationship of individual knowledge with individual actions, that's mean only 2 variables while for statistical calculations using IBM SPSS 24.0 Statistics [22]. In this study, in analyzing the extent of the influence of social distancing on the prevention of Covid-19, 4 variables were used, consisting of social distancing with work activities, government regulations, and community behavior. Measurement of how big the effect is using the path analysis method in statistical calculations using IBM SPSS 25.0 Statistics. Furthermore, the use of the path analysis method makes a new approach in this research to Analyze social distancing variables to the prevention of positive cases of Covid-19.

Based on the foundation of the issue and the definition of the issue that has been depicted, the reason of this consider is to decide how prevailing a few factors are, specifically work exercises, government controls, community behavior, and social separating towards preventive hones amid the Covid-19 widespread period utilizing the way examination strategy.

2. Methodology

This research method includes quantitative research due to data collection through questionnaires and data calculation through statistics using IBM SPSS 25.0 Statistics. Limiting the distribution of questionnaires to only around West Java, this is done so that research focuses more on the spread of the Covid-19 virus in certain area populations. The contents of the questionnaire that were distributed were in the form of several respondent identities ranging from gender, education, age, and marital status, then in the contents the questionnaire, there were also several questions related to several variables that could prevent the spread of Covid-19 cases. Make a questionnaire by filling out a google form that has been set and distributing it through social media networks in the form of a Whatsapp group messenger. Step by step this research is described in Figure 3.

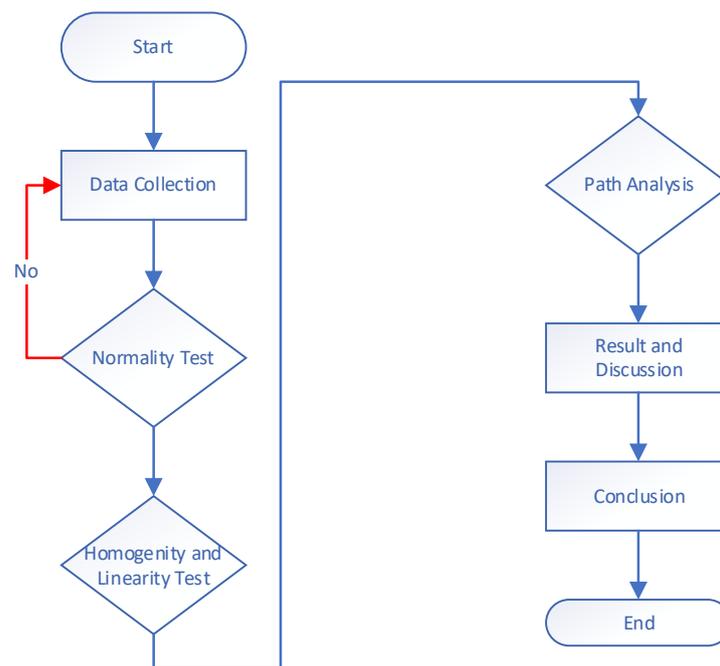


Figure 3 Framework Research

Based on Figure 3, the first step is to collect data by distributing questionnaires with 6 questions and a rating scale of 1-10. From the distribution of the questionnaires obtained 102 respondents in the area of West Java. The second step is data processing and analysis by grouping respondents into four criteria, namely gender, education, age, and marital status. The third step is to form a way investigation show with information preparing through the SPSS application with calculations or tests carried out are prerequisite tests (ordinariness test, homogeneity test, and linearity test) and way investigation test. On the off chance that the comes about of the typicality test of the information are regularly conveyed, then the information preparing is proceeded to the following test. On the off chance that the information isn't ordinarily dispersed, it is vital to rectify the information. The following step is to talk about and conclude how distant the impact of the free factors is on the subordinate variable.

The hypothesis in this study can be obtained by translating the analysis path diagram in Figure 2. This is done so that it is easy to observe the relationship between the variables used in this study.

H1: The effect of X1 on Y

H2: The effect of X2 on Y and Z

H3: The effect of X3 on Y

H4: The effect of X1 on Z

H5: The effect of X3 on Z

H6: The effect of Y on Z

H7: The effect of X1, X2, X3 on Y and Z

H8: The effect of Y on Z

The hypothesis model can be formed by reading the path analysis path in Figure 2. This is done to simplify the calculation of Y and Z in the relationship between the variables used in this study.

$$Y = P_{yx1}X1 + P_{yx2} + P_{yx3}X3 + e1 \quad (1)$$

$$Z = P_{zx1}X1 + P_{zy}Y + P_{zx3}X3 + e2 \quad (2)$$

The partial hypothesis or T-test is needed to test the significant level of the influence of the independent variable partially on the dependent variable. A partial test is done by comparing the value of the t-count with the t-table. The t-count value can be seen from the results of Coefficient data processing, the partial hypothesis is explained in statistical form as follows:

- H0: $P_{yx1} = 0$, This means that there is no effect of the variable X1 on Y
- H1: $P_{yx1} \neq 0$, This means that there is a variable influence X1 on Y
- H0: $P_{yx2} = 0$, This means that there is no effect of the variable X2 on Y
- H1: $P_{yx2} \neq 0$, This means that there is a variable influence X2 on Y
- H0: $P_{yx3} = 0$, This means that there is no effect of the variable X3 on Y
- H1: $P_{yx3} \neq 0$, This means that there is a variable influence X3 on Y
- H0: $\rho_{zy} = 0$, This means that there is no effect of the variable Y on Z
- H1: $\rho_{zy} \neq 0$, This means that there is a variable influence Y on Z

At that point tried utilizing the t-test equation with a critical level of 5% or with a 95% certainty level. In case $t\text{-calculate} \leq t\text{-table}$, H_0 is acknowledged and in the event that $t\text{-calculate} \geq t\text{-table}$, H_0 is declined.

The concurrent theory or F test is utilized to test the critical level of the impact of the free variable as a entire on the subordinate variable. In this consider, the analyst proposes a theory with a noteworthy level of $\alpha = 0,05$ as takes after:

- $H_0: \rho_{zyx} = 0$, which means that there is no effect of variables X_1, X_2 , and X_3 on Z through Y .
- $H_1: \rho_{zyx} \neq 0$, means that there is a variable effect X_1, X_2 , and X_3 on Z through Y .

To test the multiple coefficient significant test, with a significant level of 5%. If $F\text{-calculate} \geq F\text{-table}$, so H_0 is declined, H_1 is accepted (significant), if $F\text{-calculate} \leq F\text{-table}$, so H_0 is accepted, H_1 is declined (not significant).

3. Result and Discussion

3.1. Respondent Profile

This research has 102 respondents in West Java. Table 1 is described the respondent profile.

Table 1 Respondent Profile

No	Criteria	Result (person)			
1	Total Respondent	102			
2	Gender	Man = 78		Woman = 24	
3	Education	High school = 14	Bachelor = 71	Master = 17	Doctor = 0
3	Age	<25 years = 28	25~35 years = 25	36~50 years = 40	>50 years = 9
4	Marital Status	Merried = 73		Not merried = 29	

Table 1 shows that the results of the questionnaire with gender criteria get 76% male gender and 24% female gender. While the education criteria for getting respondents consisted of high school by 14%, bachelor's by 70%, and master's by 16%. Furthermore, on the age criteria, respondents who are dominated by age under 36-50 years old are 39%, and the marital status criteria are dominated by respondents who are married by 72%.

3.2. Prerequisite Test

The prerequisite test is an investigation to decide the progression of theory testing which incorporates the ordinariness test, homogeneity test, and linearity test. Information that features a normally distributed populace based on the ordinariness test features a homogeneous fluctuation comparison based on the homogeneity test, and features a straight fluctuation relationship can be proceeded for theory testing investigation. The comes about of the prerequisite tests that have been carried out can be clarified as takes after:

A. Normality Test

The typicality test was carried out, utilizing the IBM SPSS 25.0 Measurements for Windows application with the Kolmogorov-Smirnov test, in case the importance esteem > 0,05 at that point the information is regularly dispersed, but in case the importance esteem < 0,05 at that point the information isn't ordinarily dispersed. The comes about of the ordinariness test of the subordinate variable social removing can be seen in Table 2.

Based on the SPSS yield in Table 2, it is known that the noteworthiness esteem of Asymp. Sig (2-tailed) is 0.033 < 0.05. So agreeing to the premise of choice making within the Kolmogorov-Smirnov Test of typicality test over, it can be concluded that the information are not regularly dispersed since there are as well numerous extraordinary values in one information set which can result in a skewed dispersion. Ordinariness of the information can be accomplished by disposing of the information. The comes about of the typicality test of the subordinate variable on avoiding Covid-19 cases can be seen in Table 3.

Table 2 Normality Test One-Sample Kolmogorov-Smirnov Test (Unstandardized Residual) Social Distancing Variable Dependent

N		102
Normal Parameters ^b	Mean	.0000000
	Std. Deviation	1.79541178
Most Extreme Differences	Absolute	.092
	Positive	.057
	Negative	-.092
Test Statistic		.092
Asymp. Sig. (2-tailed)		.033 ^c

Remarks: a = Distribution test is normal, b = Calculated from data, c = Lilliefors significance correction

Table 3 Normality Test One-Sample Kolmogorov-Smirnov Test (Unstandardized Residual) Dependent Variable Case Preventive Covid-19

N		102
Normal Parameters ^b	Mean	.0000000
	Std. Deviation	.53179161
Most Extreme Differences	Absolute	.139
	Positive	.116
	Negative	-.139
Test Statistic		.139
Asymp. Sig. (2-tailed)		.000 ^c

As in the dependent variable of social distancing, based on the SPSS output in Table 3, it is known that the significance value of Asymp. Sig (2-tailed) is 0.000 < 0.05. So according to the basis of decision making in the Kolmogorov-Smirnov Test of normality test above, it can be concluded that the data are not normally distributed.

B. Homogeneity Test

The homogeneity test was carried out utilizing the IBM SPSS 25.0 Insights for Windows application with the premise for making choices within the homogeneity test in case the centrality esteem $< 0,05$ at that point the fluctuation of two or more data populace bunches isn't the same on the off chance that the importance esteem of $> 0,05$ hen the change of two or more bunches of information populace is the same. The comes about of the homogeneity test of the subordinate variable social removing can be seen in Table 4.

Table 4 Test of Homogeneity of Dependent Variable Social Distancing

Variable	Test of Homogeneity of Variances				
	Parameter	Levene Statistic	Df1	Df2	Sig.
Social Distancing	Based on Mean	1.124	9	296	0.345
	Based on Median	0.905	9	296	0.522
	Based on Median and Adjusted Df	0.905	9	238.187	0.522
	Based on Trimmed Mean	1.102	9	296	0.361
Anova					
	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	10.535	9	1.171	1.791	0.069
Within Groups	193.465	296	0.654		
Total	204.000	305			

Based on Table 4 that the yield of the "test of homogeneity of changes" over, it is known that the noteworthiness esteem (Sig.) of the social separating variable on the work movement variable, government controls, and community behavior is 0.345, 0.522 and 0.522. Since of all values (Sig.) of autonomous factors > 0.05 . at that point concurring to the premise of choice making within the homogeneity test, it can be concluded that the fluctuation of the survey information comes about is homogeneous. As for the comes about of the homogeneity test for the subordinate variable, the anticipation of positive cases of Covid-19 can be seen in Table 5.

Table 5 Test of Homogeneity of Prevention of Positive Cases of Covid - 19

Variable	Test of Homogeneity of Variances				
	Parameter	Levene Statistic	Df1	Df2	Sig.
Covid-19 positive case	Based on Mean	1.561	9	398	0.125
	Based on Median	0.947	9	398	0.484
	Based on Median and Adjusted Df	0.947	9	389.276	0.484
	Based on Trimmed Mean	1.506	9	398	0.143
Anova					
	Sum of Squares	Df	Mean Square	F	Sig.
Between groups	10.535	9	2.473	2.018	0.036
Within groups	193.465	398	1.225		
Total	204.000	407			

Based on Table 4 that the yield of the test of homogeneity of changes over, it is known that the centrality esteem (Sig.) of the social removing variable on the work movement variable, government controls, and community behavior is 0.345, 0.522 and 0.522. Since of all values (Sig.) of free factors > 0.05. at that point concurring to the premise of choice making within the homogeneity test, it can be concluded that the fluctuation of the survey information comes about is homogeneous. As for the comes about of the homogeneity test for the subordinate variable, the avoidance of positive cases of Covid-19 can be seen in Table 5.

D. Linearity Test

The linearity test was carried out utilizing the IBM SPSS 22.0 Measurements for Windows application with the premise for making choices within the homogeneity test in the event that the importance esteem > 0,05 at that point the conclusion is that there's a noteworthy direct relationship between the indicator variable (X) and the measure variable (Y), something else, in case the importance esteem is < 0,05 at that point the conclusion is that there's no critical direct relationship between the indicator variable (X) and the basis variable (Y). The comes about of the linearity test for the subordinate variable social separating with work exercises can be seen in Table 6.

Table 6 Linearity Test for Dependent Social Distancing Variables

Variable	Parameter	Anova				
		Sum of Squares	Df	Mean Square	F	Sig.
Covid-19 Positive Case * Work Activities	Between Groups (combined)	58.033	8	7.254	1.766	0.094
	Between Groups Linearity	37.657	1	37.657	9.167	0.003
	Between Groups Devination from Linearity	20.376	7	2.911	0.709	0.665
	Within Groups	382.045	93	4.108		
	Total	440.078	101			

Based on Table 6 that the yield of the Anova table over, it is known that the esteem of deviation from linearity Sig. the social removing variable on the work movement variable is 0.665. Since of the deviation from linearity Sig. autonomous variable > 0.05, it can be concluded that there's a noteworthy direct relationship between the social removing variable on the work action variable. The comes about of the linearity test for the subordinate variable of anticipating positive cases of Covid-19 with work exercises can be seen in Table 7.

Based on Table 7 that the yield of the Anova table over, it is known that the esteem of deviation from linearity Sig. the positive case variable for Covid-19 within the work action variable is 0.721. Since of the deviation from linearity Sig. free variable > 0.05, it can be concluded that there's a noteworthy straight relationship between the variable anticipation of positive cases of Covid-19 on the work action variable.

Table 7 Linearity Test for Dependent Social Distancing Variables

Variable	Anova					
	Parameter	Sum of Squares	Df	Mean Square	F	Sig.
Covid-19 Positive Case * Work Activities	Between Groups (combined)	15.383	8	1.923	1.515	0.163
	Between Groups Linearity	9.692	1	9.692	7.633	0.007
	Between Groups Deviation from Linearity	5.692	7	0.813	0.640	0.721
	Within Groups	118.078	93	1.270		
	Total	133.461	101			

3.3. Path Analysis Test

The path analysis test uses the IBM SPSS 25.0 Statistics for Windows application with 2 stages of analysis, namely regression on social distancing (Y) and regression on preventing positive cases of Covid-19 (Z).

A. Regression on Social Distancing Variable (Y)

Path analysis test with regression of the dependent variable social distancing with work activities, government regulations, and community behavior in the Anova and Coefficients test can be seen in Table 8.

Based on Table 8, it is found that at the same time work exercises, government controls and community behavior have a positive and critical impact on social separating. The greatness of the concurrent impact is 0.260 or 26% which is the commitment of the work movement factors, government controls, and community behavior towards social separating. Whereas the remaining 74% is impacted by other components exterior the demonstrate and this concurrent demonstrate happens essentially. This will be seen from the likelihood (sig) or < 0.01. Encourage centrality testing is proceeded by person testing through the factual parameter t. Person test comes about also show a critical impact. Taking into consideration the pick up of sig < 0.01 within the X1 line, sig < 0.01 within the X2 line, and sig < 0.01 within the X3 line. This of course clarifies that at the same time and in part work exercises, government directions and community behavior can be utilized as factors that influence social separating.

Mostly, work exercises have a positive and noteworthy affect on social removing. The size of the fractional and coordinate impact of work exercises on social removing is 0.121 or adjusted up to 12%. In this way, whether or not social removing is running is impacted by work exercises by 12%, whereas the remaining 88% is impacted by other components exterior the show. Somewhat, government controls have a positive and noteworthy affect on the execution of social separating. The greatness of the halfway and coordinate impact of government directions on the execution of social separating is 0.392 or adjusted up to 39%. This implies that the usage of social separating

is impacted by government controls by 39%, whereas the remaining 61% is impacted by other components exterior the demonstrate.

Table 8 Path Analysis Test Dependent Variable Social Distancing

Model Summary						
Model	R	R Square	Adjusted R Square	Stad Error		
1	0.510 ^a	0.260	0.238	1.82269		
a. predictor (constant) community behavior, work activities, government regulations						
Anova ^a						
Model		Sum of Square	Df	Mean Square	F	Sig.
1	regression	114.505	3	38.169	11.489	0.000 ^b
	residual	325.574	98	3.322		
	total	440.078	101			
a. dependent variable: social distancing						
b. predictors: (constant), community behavior, work activities, government regulations						
Coefficients ^a						
Model		Unstandardized B	Coefficients Std.Error	Standardized Coefficients Beta	T	Sig.
1	(constant)	3.810	0.809		4.706	0.000
	Work activities	0.125	0.097	0.121	1.289	0.200
	Government regulations	0.331	0.081	0.392	4.069	0.000
	Community behavior	0.111	0.083	0.126	1.344	0.182

a. dependent variable: social distancing

Somewhat, community behavior features a positive and noteworthy affect on the execution of social removing. The size of the fractional and coordinate impact of community behavior on the usage of social separating is 0.126 or adjusted up to 13%. This implies that the usage of social separating is affected by community behavior by 13%, whereas the remaining 87% is impacted by other components exterior the show.

B. Regression in Positive Cases of Covid-19 (Z)

Path analysis test with regression of the dependent variable prevention of positive cases of Covid-19 with work activities, government regulations, and community behavior in the Anova and Coefficients test can be seen in Table 9.

Based on Table 9, it is found that at the same time, the impact of X1, X2, X3, and Y on Z is 0.786 or 79%, and the remaining 21% is impacted by other variables exterior the show and the concurrent show is critical. Taking under consideration the likelihood F of 89,058 at sig 0.000 < 0.01.

Direct work activities do not significantly affect the prevention of Covid-19 cases. The magnitude of the direct influence of work activities on the prevention of positive cases of Covid-19 is 0.003 or 0.3%. This means that the prevention of positive cases of Covid-19 is not affected by work activities. Directly, government regulations do not significantly affect the prevention of Covid-

19 cases. The magnitude of the direct influence of government regulations on the prevention of positive cases of Covid-19 is 0.009 or 0.9%. This means that the prevention of positive cases of Covid-19 is not directly influenced by government regulations.

Straightforwardly, the behavior of the community does not essentially influence the avoidance of Covid-19 cases. The size of the coordinate impact of community behavior on the avoidance of positive cases of COVID-19 is 0.028 or 3%. This implies that the anticipation of positive cases of Covid-19 isn't straightforwardly affected by open behavior. Social distancing specifically encompasses a positive and noteworthy affect on anticipating positive cases of Covid-19.

Table 9 Path Analysis Test Dependent Variable Prevention of Covid-19 Positive Cases

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error
1	0.887 ^a	0.786	0.777	0.54265

a. predictor (constant), social distancing, community behavior, work activities, government regulations

Anova ^a						
Model	Sum of Square	Df	Mean Square	F	Sig.	
1 regression	104.898	4	26.224	89.058	0.000 ^b	
1 residual	28.563	97	0.294			
total	133.461	101				

a. dependent variable: Covid-19 positive case

b. predictors: (constant), social distancing, community behavior, work activities, government regulations

Coefficients ^a						
Model	Unstandardized B	Coefficients Std. Error	Standardized Coefficients Beta	T	Sig.	
(constant)	4.557	0.267		17.077	0.000	
1 Work activities	0.002	0.029	0.003	0.065	0.948	
1 Government regulations	0.004	0.026	0.009	0.161	0.872	
1 Community behavior	0.114	0.025	0.028	0.551	0.583	
1 Social distancing	0.480	0.030	0.872	15.974	0.000	

a. dependent variable: Covid-19 positive case

The size of the impact of social removing on the anticipation of positive cases of Covid-19 is 0.872 or adjusted up to 87%. This implies that the avoidance of positive cases of Covid-19 is affected by social separating by 87%, whereas the remaining 13% is affected by other variables exterior the show. Of the four factors utilized as indicators of avoiding positive cases of Covid-19, the social removing variable is the most grounded variable that influences the anticipation of positive cases of Covid-19 compared to the other three factors.

The implications of the results of this research analysis illustrate that 87% of social distancing has a positive effect on preventing covid 19 cases and the remaining 13% must look for other dependent variables that can have a positive effect on preventing covid-19 cases.

4. Conclusion and Future Research

Based on the comes about of information investigation utilizing way investigation, it can be concluded that work exercises don't specifically influence the anticipation of Covid-19 cases. The size of the coordinate impact of work exercises on the avoidance of positive cases of Covid-19 is 0.003 or 0.3%. Directly, government directions don't altogether influence the avoidance of Covid-19 cases. The size of the coordinate impact of government controls on the avoidance of positive cases of Covid-19 is 0.009 or 0.9%. Straightforwardly, the behavior of the community does not essentially influence the anticipation of Covid-19 cases. The size of the coordinate impact of community behavior on the anticipation of positive cases of Covid-19 is 0.028 or 3%. Social removing straightforwardly features a positive and critical affect on avoiding positive cases of Covid-19. The size of the impact of social separating on positive cases of Covid-19 is 0.872 or adjusted up to 87%.

The implication of this research is that awareness of public behavior by keeping a distance is very important in preventing the more massive Covid-19 virus from spreading. The contribution of this research confirms that government regulations related to social distancing are very important to implement in people's behavior in their daily lives so that the prevention of Covid-19 cases can be minimized as much as possible.

Further research will discuss how big the influence of other independent variables such as wearing masks, washing hands, and working at home on the prevention of positive cases of Covid-19 using covariance-based SEM or PLS.

REFERENCES

- [1] Karomani, Mahpul, and M. Iwan Satriawan, "Synergy of higher education collaboration with local governments in efforts to overcome the COVID-19 pandemic," *Acad. J. Interdiscip. Stud.*, vol. 10, no. 2, pp. 240–248, 2021, doi: 10.36941/ajis-2021-0054.
- [2] A. S. Adly, A. S. Adly, and M. S. Adly, "Approaches Based on artificial intelligence and the internet of intelligent things to prevent the spread of COVID-19: Scoping review," *J. Med. Internet Res.*, vol. 22, no. 8, pp. 1–15, 2020, doi: 10.2196/19104.
- [3] S. H. Thorik, "Efektivitas Pembatasan Sosial Berskala Besar Di Indonesia Dalam Penanggulangan Pandemi Covid-19," *J. Adalah Bul. Huk. dan Keadilan*, vol. 4, no. 1, pp. 115–120, 2020, doi: 10.15408/adalah.v4i1.15506.
- [4] D. Garson, "Path Analysis," *E-Book*, no. 2009, pp. 1–22, 2015.
- [5] P. Khorramshahi, A. Kumar, N. Peri, S. S. Rambhatla, J. C. Chen, and R. Chellappa, "A dual-path model with adaptive attention for vehicle re-identification," *Proc. IEEE Int. Conf. Comput. Vis.*, vol. 2019-October, pp. 6131–6140, 2019, doi: 10.1109/ICCV.2019.00623.

- [6] H. Rahimpour, S. M. R. Amirian, S. M. R. Adel, and G. R. Zareian, "A model of the factors predicting English language teacher immunity: A path analysis," *Indones. J. Appl. Linguist.*, vol. 10, no. 1, pp. 73–83, 2020, doi: 10.17509/IJAL.V10I1.24990.
- [7] A. D. Stajkovic, A. Bandura, E. A. Locke, D. Lee, and K. Sergent, "Test of three conceptual models of the influence of the big five personality traits and self-efficacy on academic performance: A meta-analytic path-analysis," *Pers. Individ. Dif.*, vol. 120, no. November 2017, pp. 238–245, 2018, doi: 10.1016/j.paid.2017.08.014.
- [8] S. Yu and C. Levesque-Bristol, "A cross-classified path analysis of the self-determination theory model on the situational, individual and classroom levels in college education," *Contemp. Educ. Psychol.*, vol. 61, no. March, p. 101857, 2020, doi: 10.1016/j.cedpsych.2020.101857.
- [9] S. A. S. Algharaibeh, "Should I ask for help? The role of motivation and help-seeking in students' academic achievement: A path analysis model," *Cypriot J. Educ. Sci.*, vol. 15, no. 5, pp. 1128–1145, 2020, doi: 10.18844/cjes.v15i5.5193.
- [10] B. Buldur and O. N. Güvendi, "Conceptual modeling of the factors affecting oral health-related quality of life in children: A path analysis," *Int. J. Paediatr. Dent.*, vol. 30, no. 2, pp. 181–192, 2020, doi: 10.1111/ipd.12583.
- [11] B. Dai, D. Fu, G. Meng, B. Liu, Q. Li, and X. Liu, "The Effects of Governmental and Individual Predictors on COVID-19 Protective Behaviors in China: A Path Analysis Model," *Public Adm. Rev.*, vol. 80, no. 5, pp. 797–804, 2020, doi: 10.1111/puar.13236.
- [12] M. P. Gustin, M. Abbiati, R. Bonvin, M. W. Gerbase, and A. Baroffio, "Integrated problem-based learning versus lectures: a path analysis modeling of the relationships between educational context and learning approaches," *Med. Educ. Online*, vol. 23, no. 1, 2018, doi: 10.1080/10872981.2018.1489690.
- [13] H. J. Park and S. O. Choi, "Digital innovation adoption and its economic impact focused on path analysis at the national level," *J. Open Innov. Technol. Mark. Complex.*, vol. 5, no. 3, 2019, doi: 10.3390/joitmc5030056.
- [14] S. Lima *et al.*, "Spirituality and quality of life in older adults: A path analysis model," *BMC Geriatr.*, vol. 20, no. 1, pp. 1–8, 2020, doi: 10.1186/s12877-020-01646-0.
- [15] A. Yaghoobzadeh *et al.*, "A model of aging perception in Iranian elders with effects of hope, life satisfaction, and socioeconomic status: A path analysis," *J. Am. Psychiatr. Nurses Assoc.*, vol. 24, no. 6, pp. 522–530, 2018, doi: 10.1177/1078390317753676.
- [16] K. Barbeau, K. Boileau, F. Sarr, and K. Smith, "Path analysis in Mplus: A tutorial using a conceptual model of psychological and behavioral antecedents of bulimic symptoms in

- young adults,” *Quant. Methods Psychol.*, vol. 15, no. 1, pp. 38–53, 2019, doi: 10.20982/tqmp.15.1.p038.
- [17] Z. Zaremohzzabieh, S. Ahrari, S. E. Krauss, A. B. A. Samah, L. K. Meng, and Z. Ariffin, “Predicting social entrepreneurial intention: A meta-analytic path analysis based on the theory of planned behavior,” *J. Bus. Res.*, vol. 96, pp. 264–276, 2019, doi: 10.1016/j.jbusres.2018.11.030.
- [18] S. Ansarzadeh, L. Salehi, Z. Mahmoodi, and A. Mohammadbeigi, “Factors affecting the quality of life in women with gestational diabetes mellitus: A path analysis model,” *Health Qual. Life Outcomes*, vol. 18, no. 1, pp. 1–9, 2020, doi: 10.1186/s12955-020-01293-4.
- [19] S. P. Davis, D.-G. Chen, P. B. Crane, L. P. Bolin, L. A. Johnson, and M. D. Long, “Influencing Factors of Inflammatory Bowel Disease–Fatigue: A Path Analysis Model,” *Nurs. Res.*, vol. 70, no. 4, p. 256, Jul. 2021, doi: 10.1097/NNR.0000000000000517.
- [20] R. A. Utami, R. E. Mose, and M. Martini, “Pengetahuan, Sikap dan Keterampilan Masyarakat dalam Pencegahan COVID-19 di DKI Jakarta,” *J. Kesehat. Holist.*, vol. 4, no. 2, pp. 68–77, 2020, doi: 10.33377/jkh.v4i2.85.
- [21] H. Manurung, A. Fahri, H. H. Purba, and H. Kurnia, “Accidence Analysis Work with Failure Mode and Effect Analysis Method at Coating Service Industry in Indonesia,” *Spectrum Ind. J.*, vol. 19, no. 2, pp. 135–144, 2021, doi: 10.12928/si.v19i2.20585.
- [22] J. Moudy and R. A. Syakurah, “Pengetahuan terkait usaha pencegahan Coronavirus Disease (COVID-19) di Indonesia,” *Higeia J. Public Heal. Res. Dev.*, vol. 4, no. 3, pp. 333–346, 2020, doi: 10.15294/higeia/v4i3/37844.