



**Effat College of Science and Humanities  
Psychology Department**

**Perfectionism, Personality, and Depression Levels Amongst  
Chronically Ill Individuals: A Correlational Study on Long Haul  
Covid Patients**

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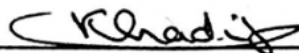
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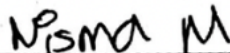
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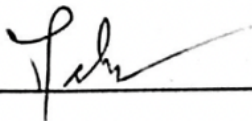
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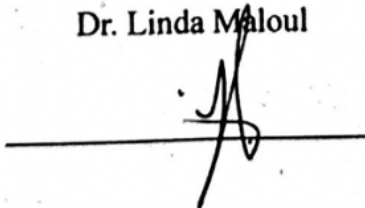
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### **Abstract**

Perfectionism levels, personality traits, and depression have been assessed across many studies in various ways independently. Depression is a common comorbidity among patients who experience chronic illnesses and diseases such as cardiovascular complications, strokes, etc. (Li et al., 2018). Although the prevalence of depression is common amongst these individuals, studies have linked the levels of perfectionism and specific personality traits to its severity (Wang, Zhang, 2017; Kotov, Gamez, Schmidt, Watson, 2010). This study analyzes the relationship between perfectionism, personality, and depression levels among chronically ill individuals with long haul covid. Moreover, the study used an opportunity sample; a survey was sent out through different social media platforms and online support groups.

*Keywords:* Perfectionism, Depression, Personality, Chronic Illness, Long Haul Covid

## **Introduction**

Major depression is one of the most prevalent mental disorders on a global level. For many, it could impair their quality of life or come along with factors that limit one's ability to major life activities such as chronic illness. Individuals with prominent chronic conditions are deemed to be more likely to experience depressive episodes. Worldwide, it has been found to be more prevalent among patients with chronic conditions in comparison to the general population (Clarke, Currie, 2009).

Depression is a term used to refer to a disorder that is a serious medical illness that negatively influences one's thoughts, actions, and feelings. The severity of this illness across similar cases has been linked to different levels and types of perfectionism, as well as differences in personality traits. Several studies have examined the relationship between perfectionism and depression in the context of university students and the general population, but very rarely amongst chronically ill individuals. Moreover, the relationship between personality traits and depression levels amongst chronically ill individuals has rarely been investigated.

## Literature Review

### Perfectionism and Depression

Perfectionists are highly frightened by the loss of control (Molnar et al., 2016). Meaning, they have spent most of their lives avoiding experiencing painful feelings that would accompany the loss of control, such as disappointment, fear, and grief. However, due to the nature of chronic illnesses, a huge obstacle is presented to perfectionists as they are now controlled by external circumstances that impact their performance. This in turn leads to an increase in self-criticism that creates stress-induced damage to an individual's mental and physical health (Molnar et al., 2016). Moreover, illness and injuries affect appearance, energy levels, and abilities, making it quite challenging to be viewed as “perfect” by others. Consecutively, perfectionists self-isolate and deprive themselves of highly needed social support (Flett et al., 2011). Moreover, chronically ill individuals are often left living in constant uncertainty as there is no known, guaranteed medical treatment to fully heal them (Friis et al., 2016). Hence, oftentimes, individuals quit caring for themselves as their efforts no longer produce the same results as before and are therefore worthless (Linnett, Kiowski, 2018).

Perfectionism is a multifactorial construct (Molnar, Sirois, 2015) that has been measured and conceptualized in various ways (Stoeber et al., 2018). Early researchers and professionals conceptualized perfectionism into two general categories, adaptive perfectionism (normal) and maladaptive perfectionism (neurotic) (Hamachek, 1978). Adaptive perfectionism is considered the “positive” type of perfectionism displayed in individuals who are highly motivated to reach their goals (Wang, Zhang, 2017). It involves the setting of high personal standards and goals and striving for the awards associated with those achievements while remaining satisfied with one’s performance. On the contrary, maladaptive perfectionism is displayed out of the fear of failure

and the need for its avoidance (Salde, Owens, 1998). It is often characterized by the inflexibility in setting unattainable standards while remaining dissatisfied and anxious about their abilities.

Maladaptive or negative perfectionism is exhibited in all types of responses, including cognitive, behavioral, emotional, and psychological retorts (Flett, Hweitt, 2016). This potentially leads to amplified physical symptoms due to emotional and physical exhaustion overburdening the stress response system. Throughout research, there has been a general relative basis of perfectionistic traits, nevertheless, longitudinal research concludes that perfectionistic cognitions are potential intervenors between perfectionism and distress (Wimberley, Stasio, 2013). It has been found that these two types of perfectionism have been found to relate in different manners to general well-being and mental health (Molnar, Sirosis, 2015). Within the general population, many studies have found that depression is positively correlated with maladaptive perfectionism (Wang, Zhang, 2017), while its links with adaptive perfectionism have been inconsistent (Dunkley, Solomon-Kakus, 2016).

In a study conducted by Enns et al., in 2001, comparing perfectionism and distress levels between medical and general arts students, the results showed lower doubts about one's actions, higher personal standards, and lower maladaptive perfectionism scores among medical students. However, studies have shown that the prevalence of depression amongst both medical and non-medical students is almost identical (Mirza et al., 2021), somewhat questioning the extent to which the type of perfectionism influences depression.

Recently, there has been a vast growth in perfectionism literature due to the development of highly valid and reliable instruments that measure the multidimensional aspect of perfectionism. One of the most widely used measures of perfectionism is the Frost Multidimensional Perfectionism Scale (FMPS). This scale is one that measures the four



sub-scales of perfectionism which are concerns over mistakes and doubts in regard to actions, extremely high personal standards, excessive concern with caregivers' or parents' expectations and evaluations, and lastly, concern with precision, organization, and order (Stober, 1998). It aims to address the dual-process model of perfectionism by differentiating between adaptive and maladaptive perfectionism (Wang, Zhang, 2017).

Several studies on undergraduate students have reported correlations between the dimensions of the Frost et al. MPS and self-reported depression (Frost et al., 1993; Minarik, Ahrens, 1996). The reports each concluded that concern over mistakes and doubts about actions displayed the strongest association with symptoms of depression (concern over mistakes  $r = 0.28$  to  $0.52$ ; doubts about actions  $r = 0.31$  to  $0.55$ ). On the other hand, organization, as well as, personal standards showed negative or little correlations with depression (organization  $r = -0.03$  to  $0.12$ ; personal standards  $r = -0.32$  to  $0.21$ ). There are currently no published reports on the levels of perfectionism in the Frost et al. MPS dimensions and depression symptoms on chronically ill, long haul covid samples. Moreover, to date, there have been very few studies on the relationship between depression and the FMPS dimensions.

### **Personality and Depression**

Aside from the relation of depression to perfectionism, differences among personality traits also play a role in the levels of depression. Much of the research found, has been conducted based on the working framework of the Five-Factor Model (FFM), which breaks personality down into five broad traits: Extraversion, Neuroticism, Conscientiousness, Agreeableness, and Openness (McCrae, Costa, 2013). Throughout years of research, findings suggest the presence of an important link between the personality traits included in the Five-Factor Model and depression, however, there are underpowered studies and a few inconsistent findings. Moreover,

current studies suggest that several personality characteristics seem to increase the likelihood of the development of depression.

Current evidence suggests that depression is linked to traits including neuroticism, extraversion, and conscientiousness. Moreover, personality characteristics seem to contribute to the onset of depression and its course through a variety of pathways. Generally, the different traits can be highly informative indicators of risk for major depressive disorder (Kotov, Gamez, Schmidt, Watson, 2010). A few previous studies displayed that three-way interactions between neuroticism, extraversion, and conscientiousness predict depressive symptoms amongst healthy and patient populations (Kotov et al., 2010). Nevertheless, each trait has been linked to different forms of psychopathology, meaning that more research is required in order to explain the dimensions in which those traits are linked to depression (Kotov et al., 2010).

A widely practiced approach testing predisposition models has been conducting longitudinal studies of personality in participants that have never been depressed before to determine whether personality characteristics are able to contribute to the onset of depressive disorders. Several studies used large community samples such as Fanous et al. (2007) and Ormel et al. (2004), reported that higher levels of neuroticism can be used as predictors of the onset of major depressive disorder episodes. On the contrary, some evidence suggests that extraversion is able to predict the first onset of major depressive disorder (Kendler et al. 2006), however, the association is weaker and other studies have been unable to find a valid association (Fanous et al. 2007, Hirschfeld et al. 1989). In addition to that, in various cross-sectional studies, there appears to be a strong negative association between depression and conscientiousness (Kotov et al., 2010). Associations with the remaining traits were unremarkable and weak.

## **Long Haul Covid and Depression**

Amidst the outbreak and multiple variants of the coronavirus disease 2019 (Covid-19 virus), there has been a rising number of individuals who are still suffering the long-term effects of this virus, referred to as long-haul patients. These effects have been quite debilitating and have been receiving increased recognition due to their complexity. Clinical symptomatology includes defects in memory and concentration, chronic fatigue, dyspnea, a variety of neuropsychiatric syndromes, and several organ system complications (Mehandru, Merad, 2022). Unfortunately, the underlying mechanisms of these long-term sequelae are still unclear and are poorly understood at present. Nevertheless, these infections have been shown to hinder the quality of patients' lives and last longer than 6 months (Phetsouphanh et. al, 2022). Whether they are chronically ill as the result of the infection, or a cluster of symptoms labeled as long haul covid, the conditions are long-lasting and at times detrimental.

That being said, like other illnesses, the likelihood of depression is expected to increase due to physical illnesses. This is attributed to two main mechanisms. The first is psychological mechanisms, where the illness provides a chronic difficulty or life event that triggers a depressive episode. The second, specific associations between depression and certain physical disorders such as strokes and cardiovascular disease exist (Goodwin, 2006). However, the severity of depression throughout the illness could possibly be highly influenced by specific personality traits and the levels of perfectionism present among those individuals.

## **Conceptual Definitions**

In this study, perfectionism is defined as striving for flawlessness, the setting of overly high standards, and the tendency for highly critical evaluations (Stoeber, 2014). Its levels will be measured based on the Frost Multidimensional Perfectionism Scale (FMPS). As for personality traits, they are defined as character traits of behaving, thinking, and feeling that remain relevant across different situations and are consistent in nature (Soto, 2018). They will be evaluated on the characteristics chosen in the Big Five traits using the Ten Item Personality Inventory (TIPI). Depression is defined as high levels of sadness, loss of interest or pleasure, low self-worth, hopelessness, restlessness, and feelings of guilt over at least 1 month and its levels will be measured using the Depression, Anxiety and Stress Scale-21 depression subscale. Lastly, long-haul covid is defined as a chronic illness caused as a result of a covid-19 infection that interferes with the quality of an individual's life and lasts longer than 6 months with no known cure.

## **Gaps in Existing Knowledge Base**

Previous research indicates that perfectionism and depression are at times positively correlated, however, these studies have not been conducted on long-haul covid patients and rarely on populations that are not students or young-adult twins. Next, samples chosen in many previous studies may have been biased as all research participants were chosen from one area of the world or were from individualistic societies, such as those from the United States. Moreover, there is very little research on the population chosen. Lastly, there is almost no literature assessing all three topics together; perfectionism, personality type, and depression.

**Research Questions**

RQ1: Is there a correlation between perfectionism and depression levels?

RQ2: What kind of correlation do specific personality traits have with levels of depression?

**Hypothesis**

It could be hypothesized that there will be a positive correlation between perfectionism and depression levels. Moreover, there will also be a positive correlation between neuroticism, extraversion, as well as conscientiousness, and depression, and a negative correlation between openness and introversion, and depression.

## **Methodology**

### **Sample**

The target population long haul covid patients who are 18+. This sample was an opportunity sample, where the survey was sent out worldwide through different social media platforms and support groups.

### **Measures**

For perfectionism levels, the Frost Multidimensional Perfectionism Scale (FMPS) is a 35-question self-report scale that covers all four subscales of perfectionism; concern over mistakes and doubts in actions, high personal standards, concern with parental figures' expectations and evaluations, and concern with order (Stober, 1998). As for personality, the Ten Item Personality Inventory (TIPI), a ten-item self-report measure of the Big Five traits was used (TIPI; Gosling, Rentfrow, Swann, 2003). Lastly, for depression levels, the 7-item depression subscale from the Depression, Anxiety, and Stress Scale-21 was resorted to (Lovibond & Lovibond, 1995). This instrument is also a self-report scale with 21 items that has continuously deemed its continuous reliability and validity over the years, across different cultures (Oei et al., 2013).

### **Design & Procedure**

All three variables, perfectionism, personality, and depression will have different levels. For depression, a score of 0-9 will be considered normal, 10-13 will be considered mild, 14-20 is moderate, 21-27 will be considered severe, and 28+ is extremely severe. Lastly, personality and perfectionism were measured based on how high an individual scored in each category in accordance with their depression level.

As for the procedure, the participants were sent an online form to fill in. At the top of each form, they were briefed and checked a consent box that included the details of what to expect from the survey and how the data will be used. Then, they assessed themselves on the perfectionism scale mentioned earlier, completed the personality traits scale, and filled in the depression scale as well. Data on other factors such as how many months out they are, the severity of their condition, age range, and gender were also collected. Generally, participants were asked to answer honestly and spent around 20 minutes filling in their information.

### **Ethical Concerns**

There were no ethical concerns that may rose due to this study.

## Results

### Descriptive Statistics

**Table 1. Age**

Age	Frequency	Percent
18-25	30	19.9%
26-35	44	29.1%
36-45	37	24.5%
45-55	30	19.9%
55+	10	6.6%

**Table 2. Gender**

Gender	Frequency	Percent
Female	125	82.8%
Male	26	17.2%

**Table 3. Severity of Condition**

Severity of Condition	Frequency	Percent
Considerable	29	19.2%
Moderate	16	10.6%
Severe	54	35.8%
Very Severe	32	21.2%
Completely Disabled	20	13.2%



**Table 4. Illness Length**

Illness Length	Frequency	Percent
3-6 Months	35	23.2%
6-12 Months	54	35.8%
Over a Year	62	41%

**Statistical Analysis**

Correlations were done between the study variables as reported in table 5.

Table 5. Pearson Correlations for the Study Variables

Variables	Mean	Standard Deviation	1	2	3	4	5	6	7
1 Extraversion	8.54	3.438	1						
2 Agreeableness	9.98	2.198	.259**	1					
3 Conscientiousness	10.6	2.605	.216**	.448**	1				
4 Neuroticism	8.14	2.896	.234**	.451**	.392**	1			
5 Openness	9.83	2.957	.481**	.291**	.393**	.480**	1		
6 Perfectionism	113.5	22.571	0.041	-0.121	0.119	-.217**	0.002	1	
7 Depression	11.95	6.669	-0.096	-0.14	-0.182*	.380**	-0.213**	.475**	1

\*\* . Correlation is significant at the 0.01 level (2-tailed).

\* . Correlation is significant at the 0.05 level (2-tailed).

There are multiple variables that have a significant correlation with depression.

Perfectionism and depression were strongly positively correlated ( $r = 0.475$ ,  $p < .001$ ). As for personality traits, neuroticism and depression were also strongly positively correlated ( $r = 0.380$ ,  $p < .001$ ), openness and depression were strongly negatively correlated ( $r = -0.213$ ,  $p = .009$ ) and depression and conscientiousness were likewise negatively correlated ( $r = -0.182$ ,  $p = .025$ ).

Other variables had no significant correlation with depression.

**Table. 6 Reliability Using Cronbach's Alpha**

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.540	.547	2

Based on Cronbach's Alpha, the data collected has been deemed reliable.

**Table 7. One Way ANOVA Analysis**

		Sum of Squares	df	Mean Square	F	Sig.
Perfectionism Sum	Between Groups	14766.428	3	4922.143	11.736	<.001
	Within Groups	61653.32	147	419.41		
	Total	76419.748	150			
Openness	Between Groups	185.067	3	61.689	8.05	<.001
	Within Groups	1126.456	147	7.663		
	Total	1311.523	150			
Neuroticism	Between Groups	212.885	3	70.962	9.98	<.001
	Within Groups	1045.194	147	7.11		
	Total	1258.079	150			
Conscientiousness	Between Groups	63.009	3	21.003	3.232	0.024
	Within Groups	955.15	147	6.498		
	Total	1018.159	150			

A one-way analysis of variance showed that the effect of perfectionism on depression was significant  $F = 11.74$ ,  $p < .001$ . Moreover, various personality traits also displayed similar significance; openness had a significant effect of  $F = 8.05$ ,  $p < .001$ , neuroticism had a significant effect of  $F = 9.98$ ,  $p < .001$ , and conscientiousness had a significance of  $F = 3.23$ ,  $p = .024$ . Tables 7 and 8 summarize the entirety of the ANOVA results.

**Table 8. Post-Hoc Analysis**

		95% Confidence Interval for Mean					
		N	Mean	Std. Deviation	Std. Error	Lower Bound	Upper Bound
Perfectionism Sum	Normal	57	23.771	23.771	3.149	96.96	109.57
	Mild	18	11.601	11.601	2.734	100.23	111.77
	Moderate	62	20.26	20.26	2.573	116.08	126.37
	Severe	14	14.367	14.367	3.84	122.28	138.87
	Total	151	22.571	22.571	1.837	109.87	117.13
Openness	Normal	57	2.646	2.646	350	9.86	11.26
	Mild	18	3.601	3.601	849	6.76	10.35
	Moderate	62	2.365	2.365	300	9.58	10.78
	Severe	14	3.647	3.647	975	4.82	9.03
	Total	151	2.957	2.957	241	9.35	10.3
Neuroticism	Normal	57	2.897	2.897	384	8.65	10.19
	Mild	18	2.176	2.176	513	6.42	8.58
	Moderate	62	2.738	2.738	348	7.06	8.45
	Severe	14	1697	1697	453	4.45	6.41
	Total	151	2.896	2.896	236	7.67	8.6
Conscientiousness	Normal	57	2.551	2.551	338	10.57	11.92
	Mild	18	2.146	2.146	506	8.54	10.68
	Moderate	62	2.185	2.185	277	10.03	11.14
	Severe	14	4.125	4.125	1.102	6.98	11.74
	Total	151	2.605	2.605	212	10.18	11.02

A Post Hoc comparison was conducted to determine the effect of the various personality traits and perfectionism on depression levels. The analysis indicated that the average number of perfectionism scores significantly increased with the increase in depression levels ( $M = 113.5$ ,  $SD = 22.57$ ). Individuals in the normal depression range were  $M = 103.26$ , mild was  $M = 106$ , moderate was  $M = 121.23$ , and severe  $M = 130.57$ . On the other hand, the neuroticism score mean decreased as the depression levels increased ( $M = 8.14$ ,  $SD = 2.9$ ); normal  $M = 9.42$ , mild

M = 7.50, moderate M = 7.76, and severe M = 5.43. Moreover, there was no pattern in the change of the mean for openness (M = 9.83 and SD = 2.96); as for the breakdown within the various depression levels, normal M = 10.56, mild M = 8.56, moderate M = 10.18, and severe M = 6.93. Lastly, in regards to conscientiousness, the mean remained within a similar range (M = 10.60, SD = 2.61); normal M = 11.25, mild M = 9.61, moderate M = 10.58, severe M = 9.36.

## **Discussion**

The purpose of this study was to investigate possible correlations between depression and perfectionism as well as depression and the big 5 personality traits in the context of chronic illness. As hypothesized, perfectionism and depression were strongly positively correlated. Moreover, in alignment with the hypothesis, regarding personality traits, neuroticism and depression were also strongly positively correlated, conscientiousness was negatively correlated with depression, and openness and depression were strongly negatively correlated. However, other variables including extraversion had no significant correlation with depression.

The results indicate that the higher levels of perfectionism an individual has, then the higher their levels of depression may be. This strong positive correlation is evident in similar studies that were conducted on university students in various fields. First, in a study conducted by Minarik et al. in 1996, undergraduate students reported that increased perfectionism with concerns over mistakes and doubts about actions displayed the strongest association with symptoms of depression. Similarly, in the study conducted by Enns et al., in 2001 on medical and arts students, results from both groups display a positive correlation between the two variables. Moreover, in regard to personality traits, several findings were aligned with previous literature. The data has suggested that individuals with higher neuroticism scores displayed more

depression than those who scored lower, in alignment with the studies conducted by Fanous et al. (2007) and Ormel et al. (2004). As for the negative correlation found between conscientiousness and depression, the findings were similar to the research conducted by Kotov et al. (2010).

On the other hand, the negative correlation between openness and depression had not been found significant in the previous literature reviewed. The correlation found in this study could be due to the fact that no similar research has been done on the chosen population and very few studies have investigated personality traits and depression in the context of chronic illness. Furthermore, the data found no significant correlation between extraversion and depression as hypothesized and found in a previous study (Kendler et al. 2006), nevertheless, this finding is similar to that of Fanous et al. (2007) and Hirschfeld et al. (1989).

### **Limitations**

The current study has several limitations beginning with the chosen population. Individuals suffering from long haul Covid and other chronic illnesses usually have brain fog that may affect the manner in which they answer the questionnaire for their ability to complete the entire form to the best of their ability. Moreover, the sample was an opportunity sample that did not have an equal male/female ratio which led to the slight exclusion of the male gender when analyzing the data. Gender may have played an important role in the extent to which the various variables influenced one another. Additionally, the study was sent out to support groups in the English language which may have influenced the demographic location the results were derived from.

Furthermore, studies of psychopathology and personality may be a not complex as the influence of the participants' mood may alter their perception of their personalities. For example,

previous studies have shown that individuals with major depressive disorder are more likely to score higher levels of neuroticism when they are depressed contrary to when they are not (Hirschfeld et al. 1983, Ormel et al. 2004). However, the influence of an individual's mood state on their personality should not be overstated. Lastly, the widely studied personality trait in regard to depression, neuroticism, raises a slight methodological and conceptual issue as its features overlap with some depressive symptoms (Ormel et al. 2004).

### **Recommendations**

Future studies may be built upon the present study in multiple ways. There are several significant factors to be further investigated, such as the differences in data between the various age groups, comparisons between individuals with different severity levels of the illness, as well as comparing data collected from different demographics. Moreover, further studies may also be able to examine whether there is a correlation between gender and specific findings. Lastly, there are still very limited studies on long-haul covid patients and further research involving the same study group and similar variables will allow for an expansion in the literature.

### **Conclusion**

Overall, this study suggests a significant correlation between perfectionism and depression as well as openness, conscientiousness, as well as neuroticism and depression. The research also highlights a difference that could be found amongst different populations within the same context. Additionally, studies on chronically ill patients allow us to further understand patients' mental health and may be used as predictors for various mood disorders during/after the duration of their illness. Due to the fact that there is little to no research on how to cure the

physical complications of long haul covid and other chronic conditions, studies like this one aid in supporting the patient's mental health. Furthermore, a majority of similar studies were done on students, usually young adults, hence, this adds to the demographic.

Lastly, it must be taken into account that this research had no demographic limit, a wide sample of adults (anyone 18+), and an unequal female/male ratio. Further research on this population and the mentioned factors is needed in order to determine how they influence the variables and continue to fill in gaps in the literature.

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