



Does Tolerance Influence People's Psychological Well-being during the Coronavirus Disease 2019 (COVID-19) Pandemic?

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Abstract

Introduction: The novel Coronavirus Disease (COVID-19) has significantly impacted all aspects of individual lives, particularly their psychological health due to the fear and restrictions associated with the resulting pandemic.

Objectives: This study seeks to determine i) if there is a correlation between tolerance and psychological well-being within the Jamaican population, ii) to determine some of the psychological effects of Covid-19 upon the Jamaican population, and iii) to ascertain the tolerance level of Jamaicans as the COVID-19 pandemic persists.

Method: This research is a cross-sectional correlational study. The data was collected via a standardized online questionnaire created in Google forms. The participants (n=1074) in this research included Jamaican citizens from all fourteen parishes. The retrieved data was stored electronically then analysed using descriptive and inferential statistics with IBM SPSS Statistics for Windows Version 27.0.

Results: This study revealed that Jamaicans generally displayed high levels of tolerance (61.5 ± 17.4 , 95% CI: 60.4-62.5, out of 90.0), and so was their psychological well-being (72.8 ± 8.1 , 95% CI: 72.3-73.2, out of 107). The study further revealed that social class, educational level, and distress tolerance also impacted the psychological well-being of respondents.

Conclusion: Based on the survey conducted, it can be inferred that tolerance did, in fact, have an impact on the psychological well-being of Jamaicans, particularly as the Covid19 pandemic persisted. Consequently, the researchers strongly recommend that the Jamaican government and other scientific and regulatory agencies: i) create more awareness by way of utilising mass media, ii) host mental health seminars to facilitate more counselling sessions, iii) develop partnerships with Heartland Counselling and other psychological services to provide telemedicine opportunities for Jamaicans as the pandemic continues.

Keywords: Covid19, Influence, Psychological Well-being, and Tolerance.

Introduction

The novel Coronavirus Disease - COVID-19 has had a significant impact on all aspects of our lives, particularly our psychological health, due to contributory factors such as fear, uncertainties, and restrictions associated with the pandemic. According to the World Health Organization (WHO, 2021), the Coronavirus has claimed the lives of over 5 374, 744 million individuals worldwide as of December 23, 2021, with a further 276 436, 619 cases reported. The WHO further noted that the recommended containment protocols, including the quarantining and isolation of affected individuals, lockdowns and restrictions on movements and social interactions as imposed by the various governmental agencies, including the CDC and the Ministry of Health and Wellness, have all impacted the psychological well-being and tolerance of their respective populations including Jamaicans.

According to Morin (2020) in the article, “*Simple Ways to Improve Your Psychological Well-Being*,” one’s psychological well-being is their level of psychological happiness or health. It includes their life’s satisfaction and feelings of accomplishment. It encompasses one’s perception of life, self-efficacy, self-esteem, and relationships with others. Accordingly, this study seeks to determine i) if there is a correlation between tolerance and the psychological well-being of participants in the Jamaican population, ii) to determine the psychological effects of Covid-19 upon the Jamaican population, and iii) to ascertain the tolerance level of the Jamaican people.

The findings of this investigation will be highly beneficial to the public and will provide insight into the population’s tolerance and psychological well-being since the start of the Covid-19 pandemic. This research focuses on the mental health issues that individuals continue to experience during the pandemic period. The findings will aid in the implementation of population coping models pertinent to these unique pandemic times.

An article published in the Oxford University Press by (Cullen et al., 2020) titled “*Mental Health In The COVID-19 Pandemic*” referenced a study of 1210 respondents from 194 cities in China, in which 54% of respondents rated the psychological impact of the Covid-19 outbreak as moderate or severe, while 29% reported moderate to severe anxiety symptoms, and 17% reported moderate to severe depressive symptoms. The United Nations Child Fund (UNICEF) also conducted a survey and found a significant impact of COVID-19 in adolescents and young adults in Latin America and the Caribbean. A more recent study of 8,444 participants ages 13-29 across nine countries found that 15% of respondents reported feelings of depression. In contrast, 27% reported anxiety, and 36% reported feeling less motivated to do regular daily chores.

Additionally, 46% of participants reported having less motivation to engage in activities of daily living that they previously enjoyed. The survey also found that 73% of participants had sought professional help regarding their psychological and mental well-being.

Compared to individuals in other countries and locales, Jamaicans have endured the pandemic's psychological consequences. A study titled "*Impact of Alcohol Consumption on the Psychological Well-being of Jamaicans during the COVID-19 Pandemic,*" conducted between May 21, 2021, and June 21, 2021, affirmed that Jamaicans, mainly the younger population ages 18-35 years, have not been coping well with the pandemic. 44% of participants indicated they had consumed alcohol four or more times per week in efforts to cope with the COVID-19 pandemic. The researcher noted that due to the "psychological impact of COVID-19, it was likely that within the younger population more cases of sexual abuse and violence could be manifested," and that consequently, "more individuals from the age group in question will end up in hospitals or prison" (BOTTLING UP, 2021).

Theoretical Framework

According to Appraisal Theory, one's interpretation of a given situation is derived from one's emotional appraisal or evaluation of the situation in question. Experts assert that the way one appraises a given situation may be more critical to their psychological well-being than the actual presence of stressors (Arnold, 1960; Cherry, 2021; Lazarus, 1991; Lazarus & Folkman, 1984). The Appraisal Theory of Emotion, as advanced by Arnold (1960), Lazarus (1991), and Lazarus & Folkman (1984), posit that one's emotions are extracted from one's appraisals, which emanate from one's evaluations, interpretations, and explanations of the event in question. This theory grounds the focus of this investigation, which explores whether tolerance influences one's psychological well-being as the Coronavirus pandemic persists. Lazarus (1991) specified two significant types of appraisal models: i) *Primary appraisal*, which seeks to establish the significance or meaning of an event, and ii) *Secondary appraisal*, which assesses the ability of the individual to cope with the consequences of the event. Lazarus described primary appraisals as "judgments about the degree of potential harm or threat to well-being that a stressor might introduce." The perception of that threat then triggers the secondary appraisal, which is the judgment of the options available to cope with the stressor and perceptions of how effective such options will be.

Literature Review

The purpose of this study was to explore the topic "*Does Tolerance Influence People's Psychological Well-being During the COVID-19 Pandemic?*" Further, this study also recommends coping mechanism models for individuals exposed to the coronavirus. Studies have underscored the likely effects of the COVID-19 pandemic on the mental health of individuals and families (Gray et al., 2020). As mentioned earlier, this investigation also explores similar effects and further seeks to explore other themes, including the fear of one's illness and possible death as attributed to exposure to the coronavirus. Different themes explored in this study include fear of losing loved ones, loss of employment and the resulting social and physical isolation, all due to the pandemic. Lia et al., (2019) also explored similar themes. They noted that, as the

COVID-19 pandemic persists, not only will our physical health be impacted but also our psychological well-being, including our struggles to avoid contracting the disease, coping with the inimitable disruptions in our daily routines and the inevitable trauma associated with the loss of loved ones due to the disease.

A pandemic disaster has a singular impact on one's mental health. Sprang and Silman (2013) noted that pandemics characteristically do not have a discrete effect. However, their long-term effects, coupled with the absence of appropriate responses, could lead to traumatic and detrimental consequences. Furthermore, in the case of children, the persistence of emotional reactions such as complicated grief continues for several years into the future (Lee et al., 2018). Moreover, very little is known about the mental health effects of disease outbreaks in children and adolescents (Lee, 2020).

In March of 2020, Jamaica reported its first case of the COVID-19 disease, and merely a week later, on March 17, officials said an additional 13 points. By January 22nd of the following year, there were 96267,473 individuals infected worldwide and more than 2082,745 deaths, according to the WHO (2021). As the pandemic surge continues, mental health analysts and therapists have also acknowledged a corresponding and correlated surge in the reported incidence of individuals contemplating suicide in addition to higher incidences of melancholy, anxiety and panic disorders, schizophrenia, bipolar clutters, and hysteria associated with COVID-19 phobia across Jamaica, a full year after the first confirmed COVID-19 case was reported (Mental Health Epidemic Warning, 2021). Quarantining, a common control strategy used to combat pandemics (Wang et al., 2020), in effect, could also trigger unforeseen psychological problems. Quarantining may also hurt one's health, as has been shown when comparing children who have been quarantined versus children who have not been quarantined (Sprang et al., 2013). Furthermore, while the adverse effects of quarantining may seem unsurprising at this time, Jeong et al. (2016) noted that the effects could still be detected months or even years down the road.

Tucker, Executive Director of the National Council on Drug Abuse (NCDA), asserts that substance-abuse experts have been alarmed by what they observe as the quadrupling of alcohol excesses in the last few months. The consensus among the substance-abuse experts was that stress and anxiety attributable to the COVID-19 pandemic maybe driving more people to the bottle (Tucker, 2020). Tucker further affirmed that the National Substance Abuse Helpline was inundated with more than 200 calls seeking assistance between June and September 2021, compared to less than 50 for the corresponding period in 2020. In response to the sharp increase in reported cases of alcohol consumption, Lai et al. (2020) noted that support services, including psychological assistance services, telephone, internet, and application-base counselling and intervention, have all been enhanced in response the demands of the COVID-19 pandemic. Moreover, Kenny (2021) observed that the WHO issued mental health communiqué alerting relevant agencies to be prepared for mass mental trauma that will affect communities and locales for the foreseeable future due to the COVID-19 pandemic.

Researchers have further affirmed that the coronavirus and the resulting COVID-19 pandemic have precipitously impaired our mental health. Gruber et al. (2020) noted that the COVID-19 pandemic could affect an individual's mental health in various ways. Gruber et al. further

observed that the COVID-19 pandemic was long-term, widespread, and characterised as a high-stake disaster that continues to disrupt our daily routine and will continue to cause significant uncertainties into the foreseeable future. Consequently, the pandemic has proven to be a significant source of anxiety for adults, children, and families. The pandemic may also be described in multi-systemic terms as its disastrous trail continues to affect the livelihoods of communities, states, and economies, including long-term consequences for the micro, meso, and macro-systems (Masten, 2020). As the race to save lives continues, it was now more critical than ever for all the relevant governmental, science, and regulatory agencies to work together to mitigate against the incidence of suicide and promote and support mental health efforts and initiatives. From quarantine to isolation and the updating of information regarding the pandemic, many persons across Jamaica were experiencing fear and anxiety and depression. Before the COVID-19 pandemic, statistics showed that approximately one million persons died globally each year due to suicide. In Jamaica, reports suggested that the suicide rate was about 2.1 per 100,000, with information from The Jamaica Constabulary Force affirming a suicide rate of between 47 and 56 suicide deaths per year (Message of the Minister of Health & Wellness Dr the Hon. Christopher Tufton, World Suicide Prevention Day- “Working Together to Prevent Suicide” – Ministry of Health & Wellness, Jamaica, 2020).

Dr Tufton noted that “while Jamaica’s suicide rate has remained low when compared to many other countries, we cannot become complacent – certainly not during a pandemic with its many stressors, including domestic violence, the incidents of which, we understand, have increased over recent months.” As a result, this investigation seeks to explore the psychological well-being and tolerance level of Jamaicans as the pandemic persists. The findings will provide decision-makers with a better understanding of the coping mechanism employed by individuals across the country and highlight the various evolving models of coping with the pandemic.

Methodology

A web-based cross-sectional correlational research design was implemented to initiate this quantitative study. Bhandari (2021) noted that correlational research designs were appropriate investigative designs to explore the relationships between variables. A standardised questionnaire was used to collect data. The questionnaire consisted of 42 closed-ended questions, five of which were demographic, 15 were adapted from the Distress Tolerance Scale, and 22 questions from the Subjective Psychological Well-being Index. Exploratory factor analysis was used to examine the reliability and validity of both indices in assessing Jamaicans’ tolerance and subjective psychological well-being.

According to the Statistical Institute of Jamaica, the size of Jamaica’s population as of 2018 stood is 2,726,667. Using a confidence level of 95% and a margin of error of 3%, the calculated sample size amounted to 1067. However, data was collected from 1074 participants. The data collection commenced September 21, 2021, and ended on November 26, 2021. Respondents were provided with the survey, along with the requisite instructions. There is considerable agreement among researchers regarding the reliability of surveys to conduct research. It is an instrument consisting of a set of standardised questions aimed at gathering statistically helpful

information on a subject from respondents (Pahwa, 2021). The questionnaire option was selected because it ensured anonymity as well as the confidentiality of participants.

Participants included Jamaicans of both genders who physically resided in one of the 14 parishes at the time of the study. The questionnaire was distributed using emails and other social media platforms, including Facebook Messenger, Telegram, Instagram, and WhatsApp Messenger. These media platforms displayed the link to the questionnaire of the study, “Does Tolerance Influence People’s Psychological Wellbeing during the Corona Virus (Covid 19) Pandemic?” The inclusion-exclusion criterion was that participants had to be Jamaican and resided in Jamaica at the time of the survey. The retrieved data was coded, stored, then analysed using descriptive and inferential statistics with IBM SPSS Statistics. Five per cent was used to determine the level of statistical significance at a 2-tailed level.

Operational Definitions

Covid-19 -Coronavirus disease (COVID-19) was an infectious disease caused by a newly discovered coronavirus. ("Coronavirus", 2021).

Influence- Influence was the ability to affect others' opinions, ideas, and actions.(Haymond, 2019). *The Journal of Applied Laboratory Medicine*.

Psychological Well-being- An individual's construction of concepts to develop oneself in such ways to feel happy (Çardak, 2013)

Tolerance- Tolerance was perceived as an attitude that implied acceptance of differences in belief and lifestyle and civilised behaviour with other people (Mahapatra, 2018).

Findings

Table 1 presents the demographic characteristics of the sampled respondents. Of the study sample (n=1,074), a majority(63.2%) of respondents were male, (34.0%) were between the age of 18-27 years, (46.5%) identified themselves as middle class, (63.9%) lived in urban communities. and majority (46.3%) had attained primary level of education.

Table 1. Demographic Characteristics of the Sampled Population, n= 1,074

Details	% (n)
Gender	
Male	63.2(679)
Female	36.8(395)
Age cohort	
18-27	34.0(365)
28-37	26.1(280)
38-47	20.9(225)
48-57	12.7(136)
58-67	4.6(49)
68-77	1.8(19)

Subjective Social Class	
Lower Class	18.7(201)
Middle Class	46.6(500)
Upper Class	34.7(373)
Area in which you live in	
Urban	63.9(686)
Rural	36.1(388)
Highest Level of education	
No formal education	39.3(422)
Primary	46.3(497)
Secondary	9.2(99)
Tertiary	5.2(56)

Distress Tolerance of Jamaicans

The researchers examined the suitability and appropriateness of using a Distress Tolerance Scale (DTS) in Jamaica. This was done through exploratory factor analysis before the index was constructed for usage-Cronbach alpha for the DTS 0.921, which means that the DTS is suitable for exploratory factor analysis. Using exploratory factor analysis, the 15-item DTS was suitable and appropriate for assessing Distress Tolerance for the Jamaican population (see Appendix 2).

Table 2 presents the descriptive statistics for the Distress Tolerance of Jamaicans. The findings revealed that the tolerance level among Jamaicans was high (61.5 ± 17.4 , 95% CI: 60.4-62.5, out of 90.0), and this was recorded during the COVID-19 pandemic.

Table 2. Descriptive Statistics for the Distress Tolerance of Jamaicans

Details	Descriptive statistics
Distress Tolerance	61.5 ± 17.4 , 95% CI: 60.4-62.5
Skewness	-0.023
Maximum	90.0
Kurtosis	-0.800

Subjective Psychological Wellbeing (SPWB) of Jamaicans

The researchers examined the suitability and appropriateness of using a Subjective Psychological Wellbeing (SPWB) in Jamaica. This was done through exploratory factor analysis before the index was constructed for usage. The Cronbach alpha for SPWB was 0.957, which meant that the SPWB was suitable for exploratory factor analysis. Using exploratory factor analysis, the 22-item SPWB was found suitable and appropriate for assessing the psychological well-being of the Jamaican population (see Appendix 3).

Table 3 presents the descriptive statistics for the Subjective Psychological well-being of Jamaicans. The findings revealed that the psychological well-being among Jamaicans was high (72.8 ± 8.1 , 95% CI: 72.3-73.2, out of 107.0) despite the COVID-19 pandemic.

Table 3.Descriptive Statistics for the Jamaicans

Details	Descriptive statistics
Distress Tolerance	72.8±8.1, 95% CI: 72.3-73.2
Skewness	0.165
Maximum	107.0
Kurtosis	0.401

Modelling Subjective Psychological Wellbeing of Jamaicans (SPWB) during COVOD-19 pandemic

This study assessed whether Jamaicans’ subjective psychological well-being (SPWB) was influenced by age, A; gender, G; educational level, E; subjective social class, SSC; and distress tolerance, DT. Equation [1] expresses a linear hypothesis of the previously mentioned variables.

$$SPWB = f(A, G, E, SSC, Distress Tolerance) \dots\dots\dots[1]$$

The Analysis of Variance (F[12, 1061]=18.190, $P < 0.001$) revealed that variables identified in equation [1] could be linearly examined. Furthermore, three emerged as factors of the five selected independent variables examined in the SPWB model. The three factors included i) educational level, ii) social class, iii) distress tolerance and accounted for 16.1% of the variance in SPWB, even though there was no multicollinearity among the independent variables (Durbin Watson = 1.530). Moreover, distress tolerance was a positive predictor of SPWB among Jamaicans. Jamaicans who indicated that they were in the upper class had a greater distress tolerance than Jamaicans who reported themselves to be in the lower class. Additionally, Jamaicans with higher levels of education were more tolerant than Jamaicans who lacked formal education (Table 4)

Table 4.Ordinary Least Square (OLS) regression of SPWB

Model			Beta	t	Sig.	95.0% CI		Tolerance	VIF
	B	Std. Error				Lower	Upper		
Constant	64.270	1.115		57.656	0.000	62.083	66.458		
Gender (1=male, 0=Otherwise)	0.152	0.487	0.009	0.312	0.755	-0.804	1.107	0.931	1.074
Primary education	2.110	0.538	0.130	3.925	<0.001	1.055	3.165	0.714	1.400
Secondary education	4.111	0.883	0.147	4.657	<0.001	2.379	5.843	0.787	1.270
Tertiary education	5.610	1.115	0.154	5.029	<0.001	3.421	7.798	0.835	1.198
No formal education	1.000								
Middle class	-0.388	0.652	-0.024	-0.595	0.552	-1.667	0.891	0.485	2.061

Upper class	2.915	0.714	0.171	4.083	<0.001	1.514	4.315	0.444	2.250
Lower class	1.000								
Age2 (28-37)	0.867	0.597	0.047	1.452	0.147	-0.305	2.040	0.746	1.340
Age3 (38-47)	0.943	0.649	0.047	1.453	0.147	-0.331	2.218	0.735	1.361
Age4 (48-57)	0.699	0.755	0.029	0.927	0.354	-0.782	2.180	0.815	1.227
Age5 (58-67)	1.367	1.151	0.035	1.188	0.235	-0.891	3.625	0.890	1.123
Age6 (68-77)	-0.572	1.775	-0.009	-0.322	0.747	-4.056	2.911	0.937	1.067
Age	1.000								
Distress Tolerance Scales	0.088	0.014	0.189	6.331	<0.001	0.061	0.116	0.876	1.142

Discussion

The challenges posed by the COVID19 pandemic have been proven to significantly impact the tolerance and psychological well-being of the Jamaican population. These challenges have resulted in increased stress levels, despair, fear, loneliness, anxiety, and depression, which invariably have deteriorated one’s mental health. According to the Jamaica Information Service (JIS), the portfolio Minister of Health and Wellness, Dr Christopher Tufton, noted that “several Jamaicans are struggling with depression, and there are elevated levels of anxiety and stress among the population” (Hodges, 2021). Tufton’s observation underscores the need for the current research question: Does Distress Tolerance Influence Peoples’ Psychological Well-being Dduring the Coronavirus (COVID-19) Pandemic?

The study sample population (n=1074) included 62.2% or (n=679) male respondents and 38.8% or (n=395) female respondents. The demographic data showed that 34% of respondents (n=365) were between the ages of 18-27 years, and a majority, 63.9% or (n=686), reported residence in urban communities. Additionally, 46.6% or (n=500) self-identified as members of the middle class, and 34.7% or (n=373) regarded themselves as members of the upper class with 18.07% or (n=201) self-identified as members of the lower class.

The Distress Tolerance scale was adapted to measure the tolerance level of Jamaicans in this study, and the findings supported the notion that Jamaicans were a highly tolerant group of people, as evidenced by the (61.5±17.4, 95% CI: 60.4-62.5, out of 90.0)evidence. Several studies, including Misigo (2015), appear to support the notion that women were more prone to stress when compared to men. Our findings appear to be consistent with Misigo’s conclusions. Most male respondents in our study (62.2%) reported very high distress tolerance levels. According to Stemke (2013), Distress Tolerance was “a variable construct which reflects the ability or lack thereof, of an individual to both tolerate a stressful state and at the same time persist at completing goal-oriented tasks while experiencing stress” (p. 128).Accordingly, Jamaicans appeared likely psychologically to deal with the challenges of COVID-19.

However, the findings also supported the notion that Jamaicans who reported low distress tolerance could experience mental health challenges as the pandemic persisted. Stemke (2013) further suggested that “substance abuse and dependence play an interesting dual role in distress tolerance, (that it was) both an outcome, as a psychopathology that can develop from low-stress tolerance, (as well as) a coping mechanism for individuals with low distress tolerance” (p. 131).

The author also noted that “the use of and subsequent dependence on drugs is one method of emotional coping, and the rapid alleviation of negative psychological state is likely to be appealing to individuals low in distress tolerance” (p. 131). The implication of these findings would seem to suggest that Jamaicans who reported low distress tolerance levels were more likely to engage in substance abuse practices, and may very well experience mental health challenges, as indicated by the positive statistical association between distress tolerance and subjective psychological well-being (Stemke, 2013).

The Subjective Psychological Well-being Index was also used to measure Jamaicans' psychological well-being during the pandemic year 2021. The scale revealed that the psychological well-being of Jamaicans was high (72.8 ± 8.1 , 95% CI: 72.3-73.2, out of 107), despite the persistent pandemic. The psychological well-being of Jamaicans during the Coronavirus (COVID19) pandemic was modelled using five independent variables, including gender, age, social class, distress tolerance, and educational level, of which the last three were found to be impacting factors. The initial findings suggested that distress tolerance had a positive impact on the psychological well-being of Jamaicans. These findings affirmed the work of McDonald, Yang and Lancaster (2021), whose study found a correlation between distress tolerance and the psychological well-being of participants in their research. Moreover, participants who reported that they were of upper-class hue appeared to have had greater tolerance levels when compared to participants who reported themselves as members of the lower class. Additionally, participants who reported higher educational levels were shown to be more tolerant than participants who reported no formal education and hence appeared to have higher levels of psychological well-being.

Conclusion

The findings of this study were conclusive. One crucial and unambiguous result was that distress tolerance did impact the psychological well-being of Jamaicans as the Covid-19 pandemic persisted. The study also found that Jamaicans were highly tolerant, and that distress tolerance and social class and educational background had a positive influence on the psychological well-being of Jamaicans. Although most respondents were males, ages 18-27 years, resided in urban communities and reported themselves as middle-class members, the findings were inconclusive as to whether those variables significantly impacted the hypothesis that distress tolerance impacted the psychological well-being of the psychological well-being Jamaicans.

However, there was clear evidence that the Jamaican Government needs to create more awareness by utilizing mass media, radio, television, and social media platforms in concert with other scientific and regulatory agencies. More mental health resources are needed to enhance Jamaicans' psychological well-being outside urban communities. The Government could also

collaborate more with psychological service providers such as Heartland Counseling Support to offer psychological telemedicine, free of cost via google meet and zoom platforms, thereby enabling more Jamaicans to access professional resources from the comfort of their personal space.

Limitations of the Study

The study contributed to a better understanding of distress tolerance and its impact on the psychological well-being of Jamaicans as the COVID-19 pandemic persisted. The scope of the study was limited to Jamaicans during the COVID-19 pandemic. Consequently, the findings may not always apply to individuals and communities outside the country. Additionally, responses provided by respondents to questions posed on the questionnaire were self-reported. As such, answers could not be independently verified.

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Appendix 1(A)

Appendix 1: Survey for the Research:

Questionnaire:

Combination of the Distress Tolerance Scale and Psychological Well-being Index.

Demographic Data

I consent to taking part in this survey:

yes

no

Please select your personal biological sex category:

Male

Female

To what age category do you currently fall?

18-27

28-37

38-47

48- 57

58- 67

68-77

What is your social class?

Lower class

Middle class

upper class

The area in which you live can be classified as.

Urban

Rural

What is your highest level of education?

No formal education

Primary

Secondary

Tertiary

Psychological General Well-being Index (PGWBI)

READ: This section of the examination contains questions about how you feel and how things have been going with you. For each question check the answer which best applies to you.

1. How have you been feeling in general? (DURING THE PAST MONTH)

- 5[] In excellent spirits
- 4[] In very good spirits.
- 3[] In good spirits mostly
- 2[] I have been up and down in spirits a lot
- 1[] In low spirits mostly
- 0[] In very low spirits

2. How often were you bothered by any illness, bodily disorder, aches, or pains?
(DURING THE PAST MONTH)

- 0[] Every day
- 1[] Almost every day
- 2[] About half of the time
- 3[] Now and then, but less than half the time
- 4[] Rarely
- 5[] None of the time

3. Did you feel depressed? (DURING THE PAST MONTH)

- 0[] Yes-to the point that I felt like taking my life
- 1[] Yes-to the point that I did not care about anything
- 2[] Yes-very depressed almost every day
- 3[] Yes-quite depressed several times
- 4[] Yes-a little depressed now and then
- 5[] No-never felt depressed at all

4. Have you been in firm control of your behaviour, thoughts, emotions, or feelings? (DURING THE PAST MONTH) 5 (Yes, so

- 4[] Yes, for the most part
- 3[] Generally so
- 2[] Not too well
- 1[] No, and I am somewhat disturbed
- 0[] No, and I am very disturbed

5. Have you been bothered by nervousness or your "nerves"? (DURING THE PAST MONTH)

- 0] Extremely so-to the point where I could not work or take care of things
- 1] Very much so
- 2] Quite a bit
- 3] Some-enough to bother me

4] A little

5] Not at all

6. How much energy, pep, or vitality did you have or feel?
(DURING THE PAST MONTH)

5[] Very full of energy-lots of pep

4[] Fairly energetic most of the time

3[] My energy level varied quite a bit

2[] Generally low in energy or pep

1[] Very low in energy or pep most of the time

0[] No energy or pep at all-I felt drained, sapped

7. I felt downhearted and blue DURING THE PAST MONTH.

5[] None of the time

4[] A little of the time

3[] Some of the time

2[] A good bit of the time

1[] Most of the time

0[] All of the time

8. Were you generally tense-or did you feel any tension?
(DURING THE PAST MONTH)

0[] Yes-extremely tense, most or all the time

1[] Yes, very tense most of the time

2[] Not generally tense, but did feel fairly tense several times

3[] I felt a little tense a few times

4[] My general tension level was quite low

5[] I never felt tense or any tension at all

9. How happy, satisfied, or pleased have you been with your personal life?
(DURING THE PAST MONTH)

5) Extremely happy-could not have been more satisfied or pleased

4[] Very happy most of the time

3[] Generally satisfied-pleased

2[] Sometimes happy, sometimes unhappy

1[] Generally dissatisfied, unhappy

0[] Very dissatisfied or unhappy most or all the time

10. Did you feel healthy enough to carry out the things you like to do or had to do? (DURING THE PAST MONTH)

5[] Yes-definitely so

4[] For the most part

- 3[] Health problems limited me in some Important ways
- 2[] I was only healthy enough to take care of myself
- 1[] I needed some help in taking care of myself
- 0[] I needed someone to help me with most or all the things I had to do

11. Have you felt so sad, discouraged, hopeless, or had so many problems that you wondered if anything was worthwhile? (DURING THE PAST MONTH)

- 0[] Extremely so-to the point that I have just about given up
- 1[] Very much so
- 2[] Quite a bit
- 3[] some-enough to bother me
- 4[] A little bit
- 5[] Not at all

12. I woke up feeling fresh and rested DURING THE PAST MONTH.

- 0[] None of the time
- 1[] A little of the time
- 2[] Some of the time
- 3[] A good bit of the time
- 4[] Most of the time
- 5[] All of the time

13. Have you been concerned, worried, or had any fears about your health?
(DURING THE PAST MONTH)

- 0[] Extremely so
- 1[] Very much so
- 2[] Quite a bit
- 3[] Some, but not a lot
- 4[] Practically never
- 5[] Not at all *PGWBI Page 3*

14. Have you had any reason to wonder If you were losing your mind, or losing control over the way you act, talk, think, feel or of your memory? (DURING THE PAST MONTH)

- 5[] Not at all
- 4[] Only a little
- 3[] Some-but not enough to be concerned or worried about
- 2[] Some and I have been a little concerned
- 1[] Some and I am quite concerned
- 0[] Yes, very much so and I am very concerned

15. My daily life was full of things that were interesting to me DURING THE PAST MONTH.

- 0[] None of the time

- 1[] A little of the time
- 2[] Some of the time
- 3[] A good bit of the time
- 4[] Most of the time
- 5[] All of the time

16. Did you feel active, vigorous, or dull, sluggish? (DURING THE PAST MONTH)

- 5[] Very active, vigorous every day
- 4[] Mostly active, vigorous-never dull, sluggish
- 3[] Fairly active, vigorous-seldom dull, sluggish
- 2[] Fairly dull, sluggish-seldom active, vigorous
- 1[] Mostly dull, sluggish-never active, vigorous
- 0[] Very dull, sluggish every day

17. Have you been anxious, worried, or upset? (DURING THE PAST MONTH)

- 0[] Extremely so-to the point of being sick or almost sick
- 1[] Very much so
- 2[] Quite a bit
- 3[] some-enough to bother me
- 4[] A little bit
- 5[] Not at all

18. I was emotionally stable and sure of myself DURING THE PAST MONTH.

- 0[] None of the time
- 1[] A little of the time
- 2[] Some of the time
- 3[] A good bit of the time
- 4[] Most of the time
- 5[] All of the time

19. Did you feel relaxed, at ease or high strung, tight, or keyed-up? (DURING THE PAST MONTH)

- 5[] Felt relaxed and at ease the whole month
- 4[] Felt relaxed and at ease most of the time
- 3[] Generally felt relaxed but at times felt high strung
- 2[] Generally felt high strung but at times felt relaxed
- 1[] Felt high strung, tight, or keyed up most of the time
- 0[] I Felt high strung, tight, or keyed up the whole month

20. I felt cheerful, light-hearted DURING THE PASTMONTH.

- 0[] None of the time
- 1[] A little of the time

- 2[] Some of the time
- 3[] A good bit of the time
- 4[] Most of the time
- 5[] All of the time

21. I felt tired, worn out, used up, or exhausted DURING THE PAST MONTH.

- 5[] None of the time
- 4[] A little of the time
- 3[] Some of the time
- 2[] A good bit of the time
- 1[] Most of the time
- 0[] All of the time

22. Have you been under or felt you were under any strain, stress, or pressure? (DURING THE PAST MONTH)

- 0[] Yes, almost more than I could bear or stand
- 1[] Yes, quite a bit of pressure
- 2[] Yes, some-more than usual
- 3[] Yes, some-but about usual
- 4[] Yes, a little
- 5[] Not at all

Distress Tolerance Scale

Think of times that you feel distressed or upset. Circle the item that best describes your beliefs about feeling distressed or upset. Please answer regarding your feelings of distress 'in general', that is, on average.

1. Feeling distressed or upset is unbearable to me.

- [] 1. Strongly Disagree
- [] 2. Mildly Disagree
- [] 3. Agree and disagree equally
- [] 4. Mildly agree
- [] 5. Strongly agree

2. When I feel distressed or upset, all I can think about is how bad I feel.

- [] 1. Strongly Disagree
- [] 2. Mildly Disagree
- [] 3. Agree and disagree equally
- [] 4. Mildly agree
- [] 5. Strongly agree

3. I can't handle feeling distressed or upset

- 1. Strongly Disagree
- 2. Mildly Disagree
- 3. Agree and disagree equally
- 4. Mildly agree
- 5. Strongly agree

4. My feelings of distress are so intense that they completely take over.

- 1. Strongly Disagree
- 2. Mildly Disagree
- 3. Agree and disagree equally
- 4. Mildly agree
- 5. Strongly agree

5. There's nothing worse than feeling distressed or upset.

- 1. Strongly Disagree
- 2. Mildly Disagree
- 3. Agree and disagree equally
- 4. Mildly agree
- 5. Strongly agree

6. I can tolerate being distressed or upset as well as most people.

- 1. Strongly Disagree
- 2. Mildly Disagree
- 3. Agree and disagree equally
- 4. Mildly agree
- 5. Strongly agree

7. My feelings of distress or being upset are not acceptable

- 1. Strongly Disagree
- 2. Mildly Disagree
- 3. Agree and disagree equally
- 4. Mildly agree
- 5. Strongly agree

8. I'll do anything to avoid feeling distressed or upset.

- 1. Strongly Disagree
- 2. Mildly Disagree
- 3. Agree and disagree equally
- 4. Mildly agree
- 5. Strongly agree

9. Other people seem to tolerate feeling distressed or upset better than I can.

- 1. Strongly Disagree
- 2. Mildly Disagree
- 3. Agree and disagree equally
- 4. Mildly agree
- 5. Strongly agree

10. Being distressed or upset is always a major ordeal for me

- 1. Strongly Disagree
- 2. Mildly Disagree
- 3. Agree and disagree equally
- 4. Mildly agree
- 5. Strongly agree

11. I am ashamed of myself when I feel distressed or upset.

- 1. Strongly Disagree
- 2. Mildly Disagree
- 3. Agree and disagree equally
- 4. Mildly agree
- 5. Strongly agree

12. My feelings of distress or being upset scare me.

- 1. Strongly Disagree
- 2. Mildly Disagree
- 3. Agree and disagree equally
- 4. Mildly agree
- 5. Strongly agree

13. I'll do anything to stop feeling distressed or upset.

- 1. Strongly Disagree
- 2. Mildly Disagree
- 3. Agree and disagree equally
- 4. Mildly agree
- 5. Strongly agree

14. When I feel distressed or upset, I must do something about it immediately.

- 1. Strongly Disagree
- 2. Mildly Disagree
- 3. Agree and disagree equally
- 4. Mildly agree
- 5. Strongly agree

15. When I feel distressed or upset, I cannot help but concentrate on how bad the distress feels.

- 1. Strongly Disagree
- 2. Mildly Disagree
- 3. Agree and disagree equally
- 4. Mildly agree
- 5. Strongly agree

Appendix 2: Factor Analysis-Distress Tolerance Scale

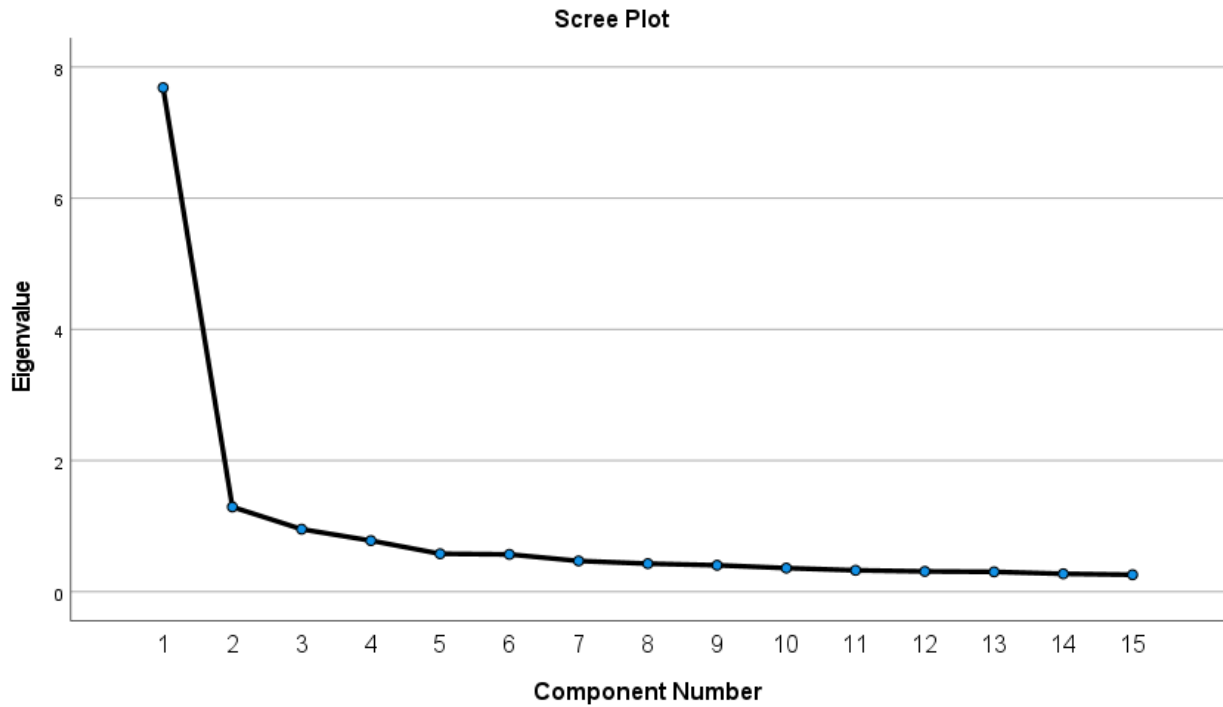
Descriptive Statistics			
	Mean	Std. Deviation	N
Feeling distressed or upset is unbearable to me.	4.02	1.700	1074
When I feel distressed or upset, all I can think about is how bad I feel.	4.13	1.680	1074
I can't handle feeling distressed or upset	4.47	1.662	1074
My feelings of distress are so intense that they completely take over.	3.86	1.787	1074
There's nothing worse than feeling distressed or upset.	4.59	1.608	1074
I can tolerate being distressed or upset as well as most people.	3.58	1.745	1074
My feelings of distress or being upset are not acceptable	3.97	1.682	1074
I'll do anything to avoid feeling distressed or upset	4.47	1.543	1074
Other people seem to be able to tolerate feeling distressed or upset better than I can.	3.99	1.667	1074
Being distressed or upset is always a major ordeal for me.	4.02	1.691	1074
I am ashamed of myself when I feel distressed or upset.	3.83	1.780	1074
My feelings of distress or being upset scare me.	3.93	1.740	1074
I'll do anything to stop feeling distressed or upset.	4.34	1.591	1074
When I feel distressed or upset, I must do something about it immediately.	4.30	1.579	1074
When I feel distressed or upset, I cannot help but concentrate on how bad the distress actually feels.	4.01	1.672	1074

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.948
Bartlett's Test of Sphericity	Approx. Chi-Square	9348.498
	Df	105
	Sig.	.000

Communalities		
	Initial	Extraction
Feeling distressed or upset is unbearable to me.	1.000	.589
When I feel distressed or upset, all I can think about is how bad I feel.	1.000	.609
I can't handle feeling distressed or upset	1.000	.621
My feelings of distress are so intense that they completely take over.	1.000	.679
There's nothing worse than feeling distressed or upset.	1.000	.534
I can tolerate being distressed or upset as well as most people.	1.000	.275
My feelings of distress or being upset are not acceptable	1.000	.554
I'll do anything to avoid feeling distressed or upset	1.000	.651
Other people seem to be able to tolerate feeling distressed or upset better than I can.	1.000	.595
Being distressed or upset is always a major ordeal for me.	1.000	.667
I am ashamed of myself when I feel distressed or upset.	1.000	.628
My feelings of distress or being upset scare me.	1.000	.637
I'll do anything to stop feeling distressed or upset.	1.000	.681
When I feel distressed or upset, I must do something about it immediately.	1.000	.637
When I feel distressed or upset, I cannot help but concentrate on how bad the distress actually feels.	1.000	.623
Extraction Method: Principal Component Analysis.		

Total Variance Explained							
Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings ^a
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total
1	7.687	51.244	51.244	7.687	51.244	51.244	7.229
2	1.293	8.621	59.866	1.293	8.621	59.866	5.440
3	.954	6.358	66.224				
4	.780	5.199	71.423				
5	.579	3.860	75.283				
6	.570	3.797	79.080				
7	.470	3.132	82.212				
8	.429	2.859	85.070				
9	.404	2.695	87.765				
10	.361	2.406	90.171				
11	.327	2.180	92.351				
12	.311	2.071	94.422				
13	.304	2.024	96.446				

14	.274	1.826	98.271				
15	.259	1.729	100.000				
Extraction Method: Principal Component Analysis.							
a. When components are correlated, sums of squared loadings cannot be added to obtain a total variance.							



Structure Matrix		
	Component	
	1	2
Feeling distressed or upset is unbearable to me.	.760	.552
When I feel distressed or upset, all I can think about is how bad I feel.	.762	.603
I can't handle feeling distressed or upset	.753	.283
My feelings of distress are so intense that they completely take over.	.824	.490
There's nothing worse than feeling distressed or upset.	.709	.301
I can tolerate being distressed or upset as well as most people.	-.170	.285
My feelings of distress or being upset are not acceptable	.693	.642
I'll do anything to avoid feeling distressed or upset	.477	.806
Other people seem to be able to tolerate feeling distressed or upset better than I can.	.742	.624
Being distressed or upset is always a major ordeal for me.	.803	.613
I am ashamed of myself when I feel distressed or upset.	.789	.548
My feelings of distress or being upset scare me.	.785	.598
I'll do anything to stop feeling distressed or upset.	.578	.820
When I feel distressed or upset, I must do something about it	.547	.795

immediately.		
When I feel distressed or upset, I cannot help but concentrate on how bad the distress actually feels.	.720	.699
Extraction Method: Principal Component Analysis. Rotation Method: Promax with Kaiser Normalization.		

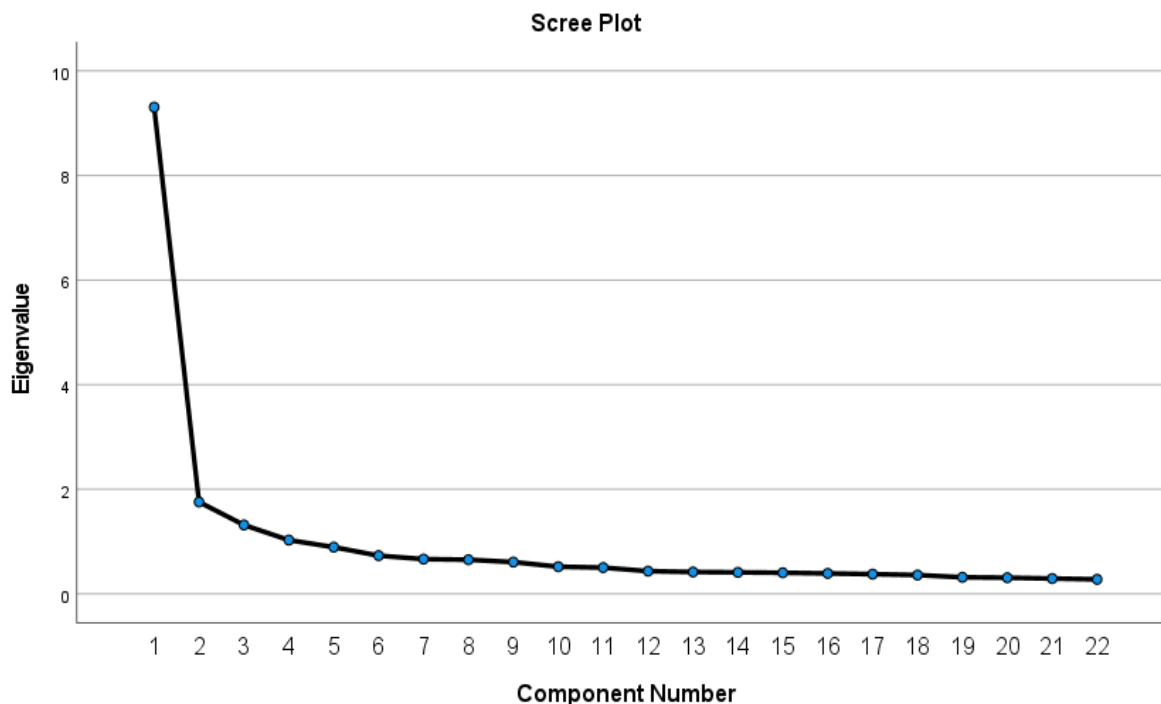
Component Correlation Matrix		
Component	1	2
1	1.000	.617
2	.617	1.000
Extraction Method: Principal Component Analysis. Rotation Method: Promax with Kaiser Normalization.		

Appendix 3: Factor Analysis for the Psychological General Well-being Index

Descriptive Statistics			
	Mean	Std. Deviation	N
How have you been feeling in general? (DURING THE PAST MONTH)	3.83	1.318	1074
How often were you bothered by any illness, bodily disorder, aches, or pains?	2.73	1.790	1074
Did you feel depressed? (DURING THE PAST MONTH)	3.50	1.656	1074
Have you been in firm control of your behavior, thoughts, emotions, or feelings? (DURING THE PAST MONTH) 5	3.25	1.502	1074
Have you been bothered by nervousness or your "nerves"? (DURING THE PAST MONTH)	3.44	1.727	1074
How much energy, pop, or vitality did you have or feel? (DURING THE PAST MONTH)	3.57	1.443	1074
I felt downhearted and blue (DURING THE PASTMONTH).	3.09	1.098	1074
Were you generally tense-or did you feel any tension? (DURING THE PAST MONTH)	3.16	1.519	1074
How happy, satisfied, or pleased have you been with your personal life? (DURING THE PAST MONTH)	3.70	1.363	1074
Did you feel healthy enough to carry out the things you like to do or had to do? (DURINGTHE PAST MONTH)	2.69	1.229	1074
Have you felt so sad, discouraged, hopeless, or had so many problems that you wondered if anything was worthwhile? (DURING THE PAST MONTH)	2.96	1.240	1074
I woke up feeling fresh and rested DURING THE PAST MONTH.	3.08	1.330	1074

Have you been concerned, worried, or had any fears about your health? (DURING THE PAST MONTH)	3.43	1.469	1074
Have you had any reason to wonder If you were losing your mind, or losing control over the way you act, talk, think, feel or of your memory? (DURING THE PAST MONTH)	2.76	1.600	1074
My daily life was full of things that were interesting to me DURING THE PASTMONTH.	3.09	1.322	1074
Did you feel active, vigorous, or dull, sluggish? (DURING THE PAST MONTH)	3.60	1.353	1074
Have you been anxious, worried, or upset? (DURING THE PASTMONTH)	3.60	1.474	1074
I was emotionally stable and sure of myself DURING THE PASTMONTH.	3.46	1.495	1074
Did you feel relaxed, at ease or high strung, tight, or keyed-up? (DURING THE PAST MONTH)	3.68	1.360	1074
I felt cheerful, lighthearted DURING THE PASTMONTH.	3.20	1.299	1074
I felt tired, worn out, used up, or exhausted DURING THE PASTMONTH.	3.55	1.357	1074
Have you been under or felt you were under any strain, stress, or pressure? (DURING THE PAST MONTH)	3.46	1.713	1074

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.957
Bartlett's Test of Sphericity	Approx. Chi-Square	11946.917
	df	231
	Sig.	.000



Pattern Matrix^a				
	Component			
	1	2	3	4
How have you been feeling in general? (DURING THE PAST MONTH)	.269	.511	-.180	-.016
How often were you bothered by any illness, bodily disorder, aches, or pains?	.045	-.153	.850	-.139
Did you feel depressed? (DURING THE PAST MONTH)	-.522	-.328	-.177	-.005
Have you been in firm control of your behavior, thoughts, emotions, or feelings? (DURING THE PAST MONTH) 5	.602	.223	-.119	-.025
Have you been bothered by nervousness or your "nerves"? (DURING THE PAST MONTH)	-.043	-.149	-.129	.874
How much energy, pop, or vitality did you have or feel? (DURING THE PAST MONTH)	.612	.197	-.112	.065
I felt downhearted and blue (DURING THE PASTMONTH).	.678	.163	-.005	-.089
Were you generally tense-or did you feel any tension? (DURING THE PAST MONTH)	.118	-.038	.281	.639
How happy, satisfied, or pleased have you been with your personal life? (DURING THE PAST MONTH)	.430	.375	-.019	-.082
Did you feel healthy enough to carry out the things you like to do or had to do?	.957	-.317	.127	-.149

(DURING THE PAST MONTH)				
Have you felt so sad, discouraged, hopeless, or had so many problems that you wondered if anything was worthwhile? (DURING THE PAST MONTH)	.461	.424	.065	-.047
I woke up feeling fresh and rested DURING THE PAST MONTH.	.030	.488	.411	.103
Have you been concerned, worried, or had any fears about your health? (DURING THE PAST MONTH)	-.132	.184	.556	.272
Have you had any reason to wonder If you were losing your mind, or losing control over the way you act, talk, think, feel or of your memory? (DURING THE PAST MONTH)	.970	-.269	.003	.050
My daily life was full of things that were interesting to me DURING THE PASTMONTH.	.242	-.955	.009	.057
Did you feel active, vigorous, or dull, sluggish? (DURING THE PAST MONTH)	.650	.156	-.078	.098
Have you been anxious, worried, or upset? (DURING THE PASTMONTH)	-.239	-.581	-.012	.038
I was emotionally stable and sure of myself DURING THE PASTMONTH.	-.138	-.725	-.114	.091
Did you feel relaxed, at ease or high strung, tight, or keyed-up? (DURING THE PAST MONTH)	.654	.103	-.035	.088
I felt cheerful, light hearted DURING THE PASTMONTH.	.178	-.939	.001	.045
I felt tired, worn out, used up, or exhausted DURING THE PASTMONTH.	.755	.005	-.011	.098
Have you been under or felt you were under any strain, stress, or pressure? (DURING THE PAST MONTH)	-.223	-.569	.142	-.092
Extraction Method: Principal Component Analysis. Rotation Method: Promax with Kaiser Normalization.				
a. Rotation converged in 7 iterations.				

Total Variance Explained	
Component	Rotation Sums of Squared Loadings ^a
	Total
1	8.379
2	7.732
3	1.725
4	1.480

Extraction Method: Principal Component Analysis.

a. When components are correlated, sums of squared loadings cannot be added to obtain a total variance.

Structure Matrix

	Component			
	1	2	3	4
How have you been feeling in general? (DURING THE PAST MONTH)	.652	.711	-.275	.024
How often were you bothered by any illness, bodily disorder, aches, or pains?	-.213	-.213	.834	-.016
Did you feel depressed? (DURING THE PAST MONTH)	-.719	-.673	-.059	-.099
Have you been in firm control of your behavior, thoughts, emotions, or feelings? (DURING THE PAST MONTH) 5	.775	.648	-.245	.016
Have you been bothered by nervousness or your "nerves"? (DURING THE PAST MONTH)	-.070	-.078	.032	.835
How much energy, pop, or vitality did you have or feel? (DURING THE PAST MONTH)	.771	.637	-.223	.104
I felt downhearted and blue (DURING THE PASTMONTH).	.786	.623	-.149	-.031
Were you generally tense-or did you feel any tension? (DURING THE PAST MONTH)	.084	.083	.366	.687
How happy, satisfied, or pleased have you been with your personal life? (DURING THE PAST MONTH)	.687	.666	-.139	-.020
Did you feel healthy enough to carry out the things you like to do or had to do? (DURINGTHE PAST MONTH)	.707	.318	-.031	-.102
Have you felt so sad, discouraged, hopeless, or had so many problems that you wondered if anything was worthwhile? (DURING THE PAST MONTH)	.740	.732	-.059	.035
I woke up feeling fresh and rested DURING THE PAST MONTH.	.304	.482	.378	.220
Have you been concerned, worried, or had any fears about your health? (DURING THE PAST MONTH)	-.082	.070	.605	.371
Have you had any reason to wonder If you were losing your mind, or losing control over the way you act, talk, think, feel or of your memory? (DURING THE PAST MONTH)	.787	.407	-.129	.083
My daily life was full of things that were interesting to me DURING THE PASTMONTH.	-.416	-.782	.063	-.024

Did you feel active, vigorous, or dull, sluggish? (DURING THE PAST MONTH)	.777	.623	-.187	.142
Have you been anxious, worried, or upset? (DURING THE PASTMONTH)	-.637	-.742	.087	-.038
I was emotionally stable and sure of myself DURING THE PASTMONTH.	-.615	-.801	-.010	-.010
Did you feel relaxed, at ease or high strung, tight, or keyed-up? (DURING THE PAST MONTH)	.736	.567	-.141	.133
I felt cheerful, lighthearted DURING THE PASTMONTH.	-.469	-.812	.063	-.040
I felt tired, worn out, used up, or exhausted DURING THE PASTMONTH.	.767	.538	-.124	.143
Have you been under or felt you were under any strain, stress, or pressure? (DURING THE PAST MONTH)	-.647	-.746	.217	-.141
Extraction Method: Principal Component Analysis. Rotation Method: Promax with Kaiser Normalization.				

Component Correlation Matrix				
Component	1	2	3	4
1	1.000	.692	-.170	.062
2	.692	1.000	-.091	.102
3	-.170	-.091	1.000	.160
4	.062	.102	.160	1.000
Extraction Method: Principal Component Analysis. Rotation Method: Promax with Kaiser Normalization.				

Appendix 4: Assumptions of OLS

