

A Path Analysis of Neuroticism, Intrinsic Religious Orientation, and Meaning in Life Among Filipino College Undergraduates

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This study intends to find out how intrinsic religious orientation (R) may actually work as a moderating variable between neuroticism (N) and meaning in life (M) among college adolescent undergraduates. Meaning in Life Index (MIL; Francis & Hills, 2008), the items for neuroticism in The Eysenck Personality Questionnaire-Brief Version (EPQ-BV; Sato, 2005), and intrinsic religious orientation items from the New Indices of Religious Orientation (NIRO; Francis, 2007) were used to measure the constructs of neuroticism, meaning in life, and intrinsic religious orientation of 260 undergraduate students in a university in Manila. Past studies were confirmed about the relationship of neuroticism with sense of meaning in life and the association of intrinsic religious orientation with meaning in life. A very good fit was obtained with $\chi^2 = .00$, NFI=1.00, RFI=1.00, CFI= 1.00, and RMSEA= .00. The results of the path analysis show that neuroticism and the interaction of neuroticism and intrinsic religious orientation can negatively and significantly predict meaning in life; intrinsic religious orientation can positively predict one's sense of meaning in life.

Keywords: neuroticism, intrinsic religious orientation, meaning in life

Frankl (1959) indicated that man's meaning in life is found in transcending oneself, even to the point of forgetting himself and loving someone. Adler (1929) seemed to point that meaning in life is found when we avoid the useless side of life, among which are lack of sociableness and self-centeredness. Vitz (1996) argued that man's meaning in life lies in discovering the values that go beyond the material world, i.e., the spiritual realm. The Catechism of the Catholic Church mentions that God continues to attract man to himself, and that in nothing but God can one find the true happiness he is looking for (27, 21).

Aristotle's discussion of happiness in *The Nichomachean ethics* suggests that meaning in life is achieved through living a life of virtue and nobility. Socrates, Plato's guru, hinted in *The Apology of Socrates* that man will find meaning in life if he live the virtues, converse about them daily, and examine his life if he lives these virtues. It is thus true that "meaningful life" could mean several things, depending on whose theory one is explicating (Francis & Hills, 2008). However, despite the absence of one plain meaning of "meaning in life," theorists, as we have enumerated above, seem to agree that it has something to do with having a sense of fulfillment.

Neuroticism has been found to be a negative predictor of meaning and purpose in life (Francis & Hills, 2008; Schmutte & Ryff, 1996). On the other hand, intrinsic religious orientation, i.e., sincerely seeking and establishing an intimate relationship with God, has been found to be positively associated with meaning and purpose in life (Francis & Hills, 2008; Soderstrom & Wright, 1977). This suggests that people who try to make their religious convictions pervade their thinking and behaving tend to have a healthy sense of meaning and purpose in life (Soderstrom & Wright, 1977). As regards neuroticism and intrinsic religious orientations, studies show that these variables are uncorrelated (Francis, 2010; Maltby, 1999).

In the present study, neuroticism refers to the feelings of anxiety, anger, envy, guilt, and depressed mood; those who score high in neuroticism experience high levels of the feelings just mentioned (Matthews, Deary, & Whiteman, 2003). Intrinsic religious orientation refers to three religious characteristics: the ability to make one's religious faith pervade all the facets of one's life, public worship as a high priority commitment, and religious practices such as prayer and spiritual reading being carried out as ways of deepening one's relationship with God (Francis, 2007). Meaning in Life in this study refers to the attachment of certain personal values in the different events on one's life (Frankl, 1959). Thus, Frankl discovered the value of courage in his suffering in the concentration camp, and realizing this value being acquired gave meaning to his life (Frankl, 1959).

The question we wish to be answered in the present study, which, it seems, has not been answered yet in the past, is whether intrinsic religious orientation is capable of moderating the effect of neuroticism on meaning in life among Christian college undergraduates. Frankl (1959) noted that countless people suffer from existential frustration, a sense of a lack of meaning in life. While intrinsic religious orientation has shown that it has the potential to heighten the sense of meaning of individuals (Francis & Hills, 2008; Soderstrom & Wright, 1977), does it have the power to weaken the negative association between neuroticism and meaning in life among Christians undergraduates? Our hypothesis is that intrinsic religious orientation can weaken significantly the negative association between neuroticism and meaning in life among Christian college students. Specifically, we hypothesize that neuroticism has a stronger negative effect on the meaning in life when one's intrinsic religious orientation is low. In other words, we predict that given two adolescent neurotics with the same level of neuroticism, the one with a higher level of intrinsic religious orientation will have a higher sense of meaning in life. While intrinsic religious

orientation may be uncorrelated with neuroticism (Francis, 2010; Maltby, 1999), we theorize that the interaction of neuroticism and intrinsic religious orientation would not show independence from meaning in life. Neuroticism would continue to have a negative effect on meaning in life. However, intrinsic religious orientation would serve as a buffer that could effectively moderate the negative effect of neuroticism on meaning in life. If this hypothesis is proven plausible, then we could assist neurotic undergraduates by encouraging them to increase their intrinsic religious orientation, and thus, enjoy more sense of meaning in life.

Method

Participants

The participants in this study were undergraduate students from a university in Manila with the majority of the students coming from a high socio-economic status. They are taking up varied courses and from different year levels. Since this study is interested in identifying how the relationship of neuroticism and meaning in life may vary as a function of intrinsic Christian religious orientation, only students with Christian background were surveyed. Of the 260 undergraduates who participated in the survey, 132 were males, 127 were females, and 1 failed to identify his gender. Catholics were 209 while those who belong to Protestant sects were 51.

Sampling Procedure

The target population of the study are Filipino college undergraduate students. To obtain the sample, the researcher made use of non-probability sampling method, specifically, the convenience sampling. The researcher resorted to this method due to time constraint.

Sample Size and power

The number of participants was identified using the Slovin's formula for sample size. The number of population of the target group was estimated to be 20,000,000. This information was obtained from the data gathered by UNICEF and the National Statistical Coordination Board. UNICEF reported that there are approximately 20,000,000 adolescents in the Philippines.. Using the Slovin's formula with 6.2% margin of error, we obtain our sample n of 260.

The power was tested after the study was carried out and a high power of 1 was obtained. This means that the probability of erroneously not rejecting a false null hypothesis is very low.

Measures

Meaning in life. Meaning in life was measured using the Meaning in Life Index (MILI; Francis and Hills, 2008). This 9-item instrument was found to have a Cronbach's alpha of .88 and an inter-item correlation range of .18 to .70, with .47 as its mean (Francis & Hills, 2008).

Neuroticism. Neuroticism was measured using the neuroticism measures of the Eysenck Personality Questionnaire Brief Version (EPQ-BV; Sato, 2005). Sato (2005) reported that the neuroticism scale of EPQ-BV has a coefficient alpha of .90. The entire EPQ-BV was found to have a good test-retest reliability value of .92; when concurrent validity was carried out by correlating the neuroticism measures of EPQ-BV with the neuroticism measures of EPQR-S, good correlation (.88) was obtained (Sato, 2005).

Intrinsic religious orientation. Intrinsic religious orientation was measured using the intrinsic religious orientation measures of the New Indices of Religious Orientation (NIRO; Francis, 2007). NIRO was found to have an item rest alpha coefficients of .89 for its intrinsic religious orientation scale (Francis, 2007). When the items were correlated with its longer form, the correlation figure was .98 for intrinsic religious orientation (Francis, 2007). Concurrent validity of the scale was examined by comparing the results of the long form of NIRO with three more religious indices: self-assigned religiosity, church attendance, and personal prayer; students who think they are religious Christians had significant higher scores on the other three scales compared with students who think they are not religious persons (Francis, 2007).

Research Design

In ascertaining how intrinsic religious orientation moderates the effect of neuroticism on meaning in life, a path analysis was deemed appropriate. Neuroticism is the independent variable, intrinsic religious orientation is the moderator, and meaning in life is the dependent variable. In path analysis, as in multiple regression, the independent variable, the moderator, and the interaction of the independent variable and moderator are all considered independent variables. Taking into account that it may be recommendable to have the independent variable and the moderator to be uncorrelated, we are correlating the two in the design (Baron & Kenny, 1986).

Procedure

Data gathering was carried out in a university in Manila. Classrooms of undergraduates were visited and classes were interrupted to give way to the survey. Before the survey sheets were handed to the students, a one-minute talk was rendered to the students by the researcher. In the talk, he explicated a distinction between meaning in life and purpose in life. Meaning was related to the values a

person regards rather highly; hence, a meaningful life is a life being lived according to the values one esteems (Frankl, 1959). Purpose in life was simply explained as the direction one wants his life to take.

The great majority of the students finished the three scales on neuroticism, intrinsic religious orientation, and meaning in life, in about 5 minutes. Few finished close to 10 minutes.

Results

Descriptive Statistics

Table 1 shows the descriptive statistics for the different variables in the study. Centered values for neuroticism and intrinsic religious orientation were used in obtaining the product term for the independent variable and the moderator. This was deemed relevant since a high (0.8) correlation was obtained between neuroticism and the product term of neuroticism and intrinsic religious orientation. Thus, to avoid the effects of multicollinearity in regression, the centered values were used in the path analysis.

Correlation

Table 1 also gives the correlation matrix of all the variables in the study. The data in the correlation matrix confirm the results of past studies about the relationships of the variables. When neuroticism and meaning in life were correlated, significant but negative relationship was observed. Neuroticism and intrinsic religious orientation were uncorrelated. As in the past studies, meaning in life and intrinsic religious orientation is significantly and positively related.

Moderation Analysis

The main goal of the study was to test the hypothesis that the negative relationship of neuroticism and meaning in life can be weakened among Christian undergraduates when the level of intrinsic religious orientation is increased. This effect was tested by doing a path analysis using meaning in life as the dependent variable, neuroticism as the independent variable, and intrinsic religious orientation as the moderator. The independent variable and the moderator were centered to reduce the effects of multicollinearity in the study. One interaction term was generated by multiplying the neuroticism term with intrinsic religious orientation term.

As we can see in table 2, the result of the path analysis shows that the estimates for neuroticism, intrinsic religious orientation, and their product term, were all significant. The independent variable, the moderator, and the product term in this study are therefore significant predictors of meaning in life. A two-way interaction plot was constructed to analyze the effect of the moderator on the independent and dependent variables. The plot plainly shows the advantage of having

a higher intrinsic religious orientation within the context of the negative relationship between neuroticism and meaning in life. One way of making sense of the plot is to locate a point in the x-axis (neuroticism) and using this point, identify its level in the y-axis (meaning in life), for both low and high intrinsic religious orientation. The interaction plot can be seen in Figure 1. The model has an excellent fit ($\chi^2=.00$, NFI=1.00, RFI=1.00, CFI=1.00, RMSEA=.00)

Table 1

Summary of Intercorrelation, Means, and Standard Deviations for the Scores on Meaning in Life, Neuroticism, Intrinsic Religious Orientation, and the interaction term NXR

Measure	1	2	3	4	M	SD
1. Meaning in life	-				4.11	.51
2. Neuroticism	-.24*	-			2.68	.77
3. Intrinsic religious orientation	.43*	.06	-		3.77	.78
4. N X R	.02	.80*	.52*	-	10.07	.43

Note: Means and standard deviations of the variables are given above.

* $p < .05$

Table 2

Path Coefficients between Meaning in Life, Neuroticism, Intrinsic Religious Orientation, and the Interaction term of Neuroticism and Intrinsic Religious Orientation

	Neuroticism	Intrinsic religious orientation	N X IR
Meaning in life	-.15***	.26***	-.10*

Note: $N=260$. Centered values of the independent variable, the moderator, and their product term were used in this path analysis.

* $p < .05$ *** $p < .001$

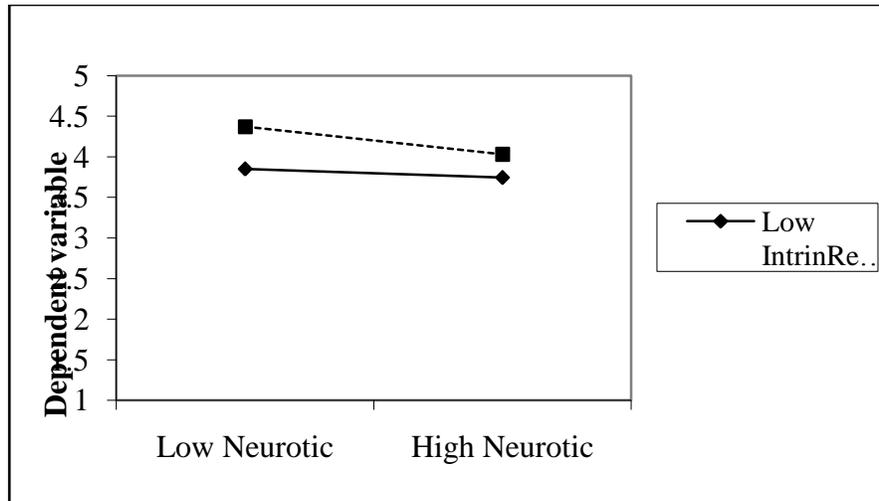


Figure 1. The graph shows the two-way interaction of neuroticism and intrinsic religious orientation.

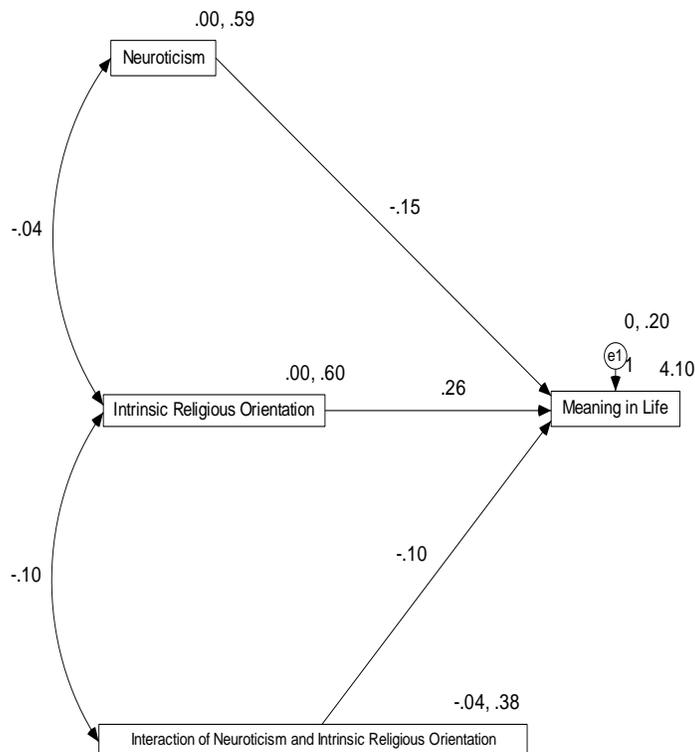


Figure 2. Path analysis model testing relationships among meaning in life, neuroticism, intrinsic religious orientation, and the product term of neuroticism and intrinsic religious orientation. Centered values were used in the path analysis.

Discussion

The results in the study point to the important role that intrinsic religious orientation play in helping undergraduate neurotics develop a more sense of meaning in life. Our hypothesis was confirmed by our results. Neuroticism has a stronger negative effect on meaning in life when intrinsic religious orientation is low. Our finding is especially relevant for Christian undergraduates suffering from high levels of neuroticism. These individuals, despite their neuroticism, could be helped to have better sense of meaning in life by affording them assistance in raising their intrinsic religious orientation. Moreover, recent studies suggest that people, young and old, are searching for meaning in life (O'Connell & Skevington, 2005; Dennis, Muller, Miller, & Banerjee, 2004). Although the studies just cited were carried out in other countries, if we relate those studies to our findings here, it seems not unreasonable to extrapolate that helping a Christian neurotic student of any nationality to boost his intrinsic religious orientation is helping him raise the level of his sense of meaning in life. Though intuition favors that analysis, further studies could be carried out to confirm our theory in this regard.

How the increase in intrinsic religious orientation actually functions in a Filipino Christian neurotic to bring up his sense of meaning in life is something, it seems, not yet explicated anywhere. We could theorize however that such an increase in meaning in life has something to do with finding meaning in suffering. Recent studies confirmed that people are looking for the meaning in their suffering (Ferch & Ramsey, 2003; Idler, 1995). A neurotic experiences suffering (Matthews, Deary, & Whiteman, 2003). If a Christian neurotic discovers that Christianity teaches Christians to make sense of their suffering by uniting their suffering to those of Christ, that suffering can be seen as a great good for the soul, and one may commence to realize that one's suffering can potentially be very meaningful. The Catechism of the Catholic Church states that "...he is consecrated to bear fruit by configuration to the Savior's redemptive Passion. Suffering, a consequence of original sin, acquires a new meaning; it becomes a participation in the saving work of Jesus" (1521, 356).

Intuition impels us to think then that if a Filipino Christian neurotic develops intrinsic religious orientation, his sense of meaning in life may rise up. We theorize here that for a Christian neurotic, making sense of his suffering through heightening one's intrinsic religious orientation, makes one's life highly meaningful. This is something that may be investigated in future research.

Our results too indicate that intrinsic religious orientation is compatible with any level of neuroticism. Thus, a person may have high, medium, or low intrinsic religious orientation regardless of the level of neuroticism he is suffering from. Such is not the case however for neuroticism and meaning in life. Just like in past studies, we found in the present study that neuroticism is negatively correlated with meaning in life. As the level of neuroticism of an individual surges, his sense of meaning in life diminishes, and vice versa.

The results we obtained also offers interesting insights about how the three variables may be influencing each other. If increasing the level of intrinsic religious

orientation may bring up the level of meaning in life in a Filipino Christian neurotic student, this stepping up of one's sense of meaning in life, likewise has the potential of bringing down the level of neuroticism since these two variables are negatively and significantly correlated. Although the neuroticism variable is considered in the present study as the independent variable, it may be plausible too that the two variables influence one another bidirectionally. A study suggested that meaning in life can predict one's level of neuroticism (Mascaro & Rosen, 2005). This may suggest that as we help a Christian neurotic student acquire meaning in life through the inculcation of intrinsic religious orientation, his neuroticism may diminish. The dynamics of this process could be the object of future studies.

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