

Demographic Differences in Coping With Uncertainty About the Future

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ABSTRACT. Age, gender, and regional differences in the responses of a Dutch population to the Prediction of Future Events Scale (Tobacyk, Nagot, & Mitchell, 1989) were explored. The factor structure of the scale was found to be identical to that in the U.S. study of Tobacyk et al., although the latter study accounted for 40.6% of the variance, whereas the present study accounted for 63.1% of the variance. Only 3 of the 7 factors could be considered reliable. Age appeared to be an important factor; the younger groups had more confidence than the older groups did in all methods of predicting the future. The scores for the western part of the Netherlands were systematically and significantly lower than those of the other regions, for all scales, and the women's scores for methods of prediction involving psi were higher than those of the men.

SOME EVENTS, SUCH AS SOLAR ECLIPSES, are relatively easy to predict, whereas others, such as the results of an election, are more difficult. Scientific methods of predicting the future may involve the use of a formula (input X causes output Y) or the assignation of p values, based on statistics. Most people, however, do not require hard evidence, such as Bem and Honorton's recent (1994) proof of the existence of psi, but are influenced more by personal experiences (Randall, 1990). Those who put their trust in paranormal divinatory techniques find reassurance in the notion that the future can be predicted using tarot cards or astrology (Wolpert, 1993). Others rely on religion, and still others believe that the key to the future can be found in nature.

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Our focus in the present study was not the validity of predictions about future events, but rather, their role as a mechanism for reducing uncertainty about the future. The Prediction of Future Events Scale (Tobacyk & Nagot, 1994; Tobacyk, Nagot, & Mitchell, 1989) assesses the cognitive dimensions of beliefs about the prediction of future events and explores the extent of people's belief in items such as the following: paranormal divinatory techniques, predictions of psychically gifted people, scientifically validated forecasting procedures, animal behavior predictions, everyone can predict the future, religious determinism, and determinism versus freedom. These items have their basis in paranormal divinatory techniques, science, nature, and religion.

In the present study we examined the psychometric properties of the Dutch version of Tobacyk, Nagot, and Mitchell's Prediction of Future Events Scale. Because beliefs are culturally determined, we also sought to determine the existence of any regional differences in beliefs about predicting future events. Finally, we investigated age group differences and gender differences for belief in the paranormal, which have been documented by Randall (1990; Randall & Desrosiers, 1980).

Method

Participants

A random sample of 392 Dutch volunteers (207 males and 185 females) from four regions of the Netherlands—west, south, central, and north—completed a questionnaire about the prediction of future events. The participants were divided into five age groups: Group 1 (≤ 19 years), Group 2 (≥ 20 to ≤ 29 years), Group 3 (≥ 30 to ≤ 45 years), Group 4 (≥ 46 to ≤ 55 years), and Group 5 (≥ 56 years).

Materials

The Prediction of Future Events Scale (Tobacyk, Nagot, & Mitchell, 1989) consists of 21 items distributed over seven subscales: Paranormal Divinatory Procedures, 4 items; Psychically Gifted Persons, 4 items; Scientifically Validated Forecasting Procedures, 4 items; Animal Behavioral Prediction, 3 items; Everyone Can Predict the Future, 2 items; Religious Determinism, 2 items; and Determinism Versus Freedom, 2 items. Each item is rated on a 5-point Likert-type scale that ranges from *strongly disagree* (1) to *strongly agree* (5).

Procedure

The participants completed the scale, some immediately, others later, and mailed it to the authors or their associates.

Results

Psychometric Analyses

Factor analysis yielded seven factors with an eigenvalue greater than 1.00. Varimax rotation in eight iteration yielded a solution indicating a factor structure that was identical to the one found by Tobacyk et al. (1989). The total variance accounted for by each factor, for the present study and for Tobacyk's study, is reported in Table 1. The total variance in the present study—63.1% in contrast to 40.6% for the Tobacyk study—indicated that the factor structure of the present sample was more impressive than that of the U.S. study.

TABLE 1
Alpha Reliability, Regional Differences and Age Differences, and Percentage of Variance Accounted for in Tobacyk, Nagot, and Mitchell (1989) and the Present Study, for the Seven Factors/Scales

Factor/Scale	α	Difference (<i>F</i> value)		(% variance accounted for)	
		Regional	Age	Tobacyk study	Present study
1. Paranormal Divinatory Procedures	.83	2.37*	1.46	10.7	22.3
2. Psychically Gifted Persons	.77	3.67**	0.85	9.2	9.8
3. Scientifically Validated Forecasting Procedures	.64	4.55***	13.85***	7.2	8.0
4. Animal Behavioral Prediction	.52	0.69	3.87**	3.9	7.0
5. Everyone Can Predict the Future	.48	4.34***	2.63*	3.5	5.7
6. Religious Determinism	.64	1.21	9.50***	3.3	5.4
7. Determinism Versus Freedom	-.52	4.57***	2.12	2.8	4.9

* $p < .05$. ** $p < .01$. *** $p < .001$.

Reliability of the Factors/Scales

We calculated the reliability coefficient for each factor/scale (see Table 1). Three factors/scales (Animal Behavioral Prediction, Everyone Can Predict the Future, and Determinism Versus Freedom) were not reliable because their reliability coefficients were lower than .60.

Correlation Between the Factors/Scales

The correlations between the factors/scales are reported in Table 2. Except for Factors 1 and 2 (Paranormal Divinatory Procedures and Psychically Gifted Persons), for which the correlation coefficient was .54 ($p = .001$), the correlation coefficients between the factors were low but significant in each case ($p = .05$). No more than 10% of the variance for each factor was explained by other factors (except in the case of Factors 1 and 2, for which 30% of the variance was accounted for by the other factor).

Regional Differences

Regional differences, calculated for each factor/scale (see Table 1), were evident for the following factors/scales: Psychically Gifted Persons, Scientifically Validated Forecasting Procedures, Everyone Can Predict the Future, and Determinism Versus Freedom. The difference for the scale/factor Paranormal Divinatory Procedures was marginal. There were no regional differences for the Animal Behavioral Prediction and Religious Determinism scales.

Age Differences

The participants were divided into five age groups, and age differences were calculated for each factor/scale. An overview of the age differences per factor/scale is provided in Table 1. There were no differences with regard to age for the following factors/scales: Paranormal Divinatory Procedures, Psychically Gifted Persons, and Determinism Versus Freedom (see Table 1). For the other factors/scales, there was an increase in belief, with a dip in the regression line, for the second age group (20–29 years of age), with the exception of Scientifically Validated Forecasting Procedures, for which there was a decrease in belief from Group 1 to Group 4 and an increase for Group 5.

Gender Differences

An overview of the differences between the male and female participants per factor/scale indicates that these groups differed only for the two scales concerning the paranormal; there were no differences for the other scales.

TABLE 2
Correlations Between the Factors/Scales

Factor/scale	1	2	3	4	5	6
1. Paranormal Divinatory Procedures						
2. Psychically Gifted Persons	.54					
3. Scientifically Validated Forecasting Procedures	.24	.17				
4. Animal Behavioral Prediction	.18	.24	.05			
5. Everyone Can Predict the Future	.28	.23	.32	.11		
6. Religious Determinism	.24	.12	.16	.20	.11	
7. Determinism Versus Freedom	.19	.16	.26	.11	.14	.18

Discussion

The present findings indicate that the cognitive structure of beliefs predicting future events is multidimensional, corresponding to the findings of Tobacyk et al. (1989) for a U.S. student population. In addition, the seven factors/scales we identified in the present study were the same as those that were identified by Tobacyk et al. Neither Tobacyk et al. nor Tobacyk and Nagot (1994) reported reliability coefficients for the scales, but the present findings indicate that three of the seven scales were not reliable (Cronbach's $\alpha < .60$).

With the exception of three scales, Paranormal Divinatory Procedures, Psychically Gifted Persons, and Determinism Versus Freedom, all the scales exhibited significant differences between the various age groups for beliefs about predicting future events. Belief in scientific methods of predicting the future was strongest in the respondents who were younger than 19, and weakened with time. A possible explanation for this finding is that whereas young people are educated about the wonders of modern science, they eventually learn that even science is not infallible.

Significant regional differences in beliefs about predicting future events were evident for the following scales: Psychically Gifted Persons, Scientifically Validated Forecasting Procedures, Everyone Can Predict the Future, and Determinism Versus Freedom. These differences are attributable to the systematically lower scores of the respondents from the western part of the country, for all the scales. Only on the scale Everyone Can Predict the Future were the scores of the respondents from the eastern part of the country lower than those of the respondents from the other three regions. This result can be attributed to the fact that Protestantism is prevalent in the northeastern region of the Netherlands, whereas Catholicism is prevalent in the south.

Finally, consistent with the findings of comparable studies (e.g., Randall & Desrosiers, 1980; Tobacyk & Milford, 1983), the female participants seemed to

put more faith in paranormal divinatory techniques and psychically gifted persons than the male participants did.

Although the strength of the participants' conviction varied, all of them seemed to need some type of belief to cope with uncertainty about the future. The participants' choice of belief, which was dependent upon their gender, age, and regional identity, was in fact a strategy for handling cognitive dissonance (Festinger, Riecken, & Schachter, 1956).

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