

The Structure of Attitudes to Doomsday Issues

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Principal components analysis followed by a Varimax rotation was employed to investigate the structure of 24 belief statements representing responses to the threats posed by overpopulation, pollution and nuclear weapons. These items were administered to 170 second year Psychology students together with the Wilson and Patterson (1968) C scale which was included in the analysis as a marker variable. Little support was found for a general dimension of doomsday consciousness. Only the personal helplessness factor was defined by items representing all 3 issues. Of the remaining factors, 4 dealt primarily with overpopulation and pollution and 2 were dominated by the issue of nuclear weapons. Of particular interest for all issues was the way in which factors of concern and responsibility were orthogonal to factors of support for social action.

The existence of an environmental crisis has been well documented in recent years by Ehrlich (1968, 1972), Commoner (1972), Dubos (1971), Taylor (1970), and others. At the centre of these discussions have been the problems of overpopulation and pollution. A third aspect of the environmental crisis examined by Ehrlich (1968) is the possibility of thermo-nuclear warfare as the Earth's increasing population competes for ever depleting resources. Along with the recognition of these problems has come a proliferation of theories as to how the crisis might be averted, some being largely technological in nature while others advocate a basic change in the lifestyle of the individual—a change of values and beliefs. If such a change as the latter is necessary for the survival of the species, then it is of some importance to be aware of the way in which people respond when confronted with a threatening situation. The present study was designed to investigate the structure underlying belief statements which expressed denial, concern, support for action and powerlessness in the face of the threats posed by overpopulation, pollution and nuclear weapons.

The domain of beliefs was defined by well documented responses to a communal threat. Terry (1971) and Frank (1961) have discussed the problem of denial of the seriousness of a threatening situation either to oneself or to humanity. Given that the situation is acknowledged as being threatening, Terry has raised the question of whether this is likely to ensure concern about what action is and can be taken. He and Moncrief (1970) have pointed out that many who accept that there is a problem are not personally concerned about what can be done, and often bask in the assurance that others have the situation well under control. Once acceptance and concern for action are aroused, Terry has argued for personal commitment to action and support for

programmes of social change to avert the crisis. One of the major obstacles to achieving this goal has been acknowledged not only by Terry but also by Ehrlich (1968), Frank (1961), and Forman (1963)—the belief that the individual, and in some cases society, is powerless to do anything to change the “natural” course of events.

Of particular interest in investigating the structure of these beliefs were the following questions. Is there a general dimension of doomsday consciousness, a dimension which involves items of concern or commitment to action on all three issues as Ehrlich's work implies? Secondly, are the responses of denial and of helplessness issue specific or do individuals who respond one way to one of the problems respond similarly to the other problems? Thirdly, can any support be found for Terry's (1971) thesis that the problems of acceptance, concern and commitment to action are relatively independent goals in educating for environmental consciousness.

METHOD

Subjects

The sample consisted of 170 second year Psychology students at the University of Queensland.

Items

Twenty-four items were written to cover the belief domain. The principle of Guttman's (1959) facet theory was used to guide item selection. The beliefs outlined above differed primarily on three facets. The first facet was the nature of the issue (A), that is, whether the belief statement referred to overpopulation (a_1), pollution (a_2) or nuclear weapons (a_3). The second facet was the type of response (B), the elements being the seriousness of the threat (b_1), concern that action be taken to overcome the threat (b_2), the effectiveness of any action taken (b_3), and commitment to action (b_4). The third facet was type of referent (C) and had two elements. The statement could have referred to oneself (c_1) or to humanity (c_2). The 24 combinations of one element from each facet defined the beliefs to be investigated. The items together with the profiles they represent are listed in Table I.

Procedure

Ss were asked to rate each of the 24 belief statements, presented in a random order, on a 6 point scale which was anchored at either end by the labels “strongly agree” and “strongly disagree.” They were also asked to complete Wilson and Patterson's (1968) C scale. The order of presentation of the two inventories varied systematically, with half the Ss completing the belief inventory first while the other half

Table 1

Items representing the domain

Item No.	Belief Statement	Profile
1.	It is highly unlikely that increases in world population will jeopardize my own chances of survival.	a ₁ b ₁ c ₁
2.	Mankind can do nothing to rid himself of the problem of overpopulation.	a ₁ b ₃ c ₂
3.	I ought to do more to support action against the possible use of nuclear weapons.	a ₃ b ₄ c ₁
4.	By acting now, man could overcome the pollution problem.	a ₂ b ₃ c ₂
5.	I am deeply concerned about what can be done to control the world's rate of population growth.	a ₁ b ₂ c ₁
6.	Everything that can be done to control the world's population explosion is being done.	a ₁ b ₃ c ₂
7.	My personal survival is threatened by the presence of nuclear missiles in the world today.	a ₃ b ₁ c ₁
8.	There are some things that I personally can do that will help combat overpopulation.	a ₁ b ₃ c ₁
9.	International bodies are not putting sufficient pressure on the nuclear powers to disarm.	a ₃ b ₄ c ₂
10.	People all over the world should be encouraged to have small families in order to reduce the world's rate of population growth.	a ₁ b ₄ c ₂
11.	I am not very worried about what can be done to overcome the world's pollution problem.	a ₂ b ₂ c ₁
12.	Further polluting of our environment jeopardizes man's chance for survival.	a ₂ b ₁ c ₂
13.	There is nothing that I personally can do to help overcome the pollution problem.	a ₂ b ₃ c ₁
14.	The problem of the use of nuclear weapons against mankind has been ignored for far too long.	a ₃ b ₂ c ₂
15.	There is more that I ought to do to help alleviate the pollution problem.	a ₂ b ₄ c ₁
16.	Nuclear weapons do not seriously threaten the survival of mankind.	a ₃ b ₁ c ₂
17.	There is not nearly enough attention being paid to combating the world's pollution problem.	a ₂ b ₂ c ₂
18.	I am not much concerned about what can be done to safeguard the world against the use of nuclear weapons.	a ₃ b ₂ c ₁
19.	I have a personal responsibility to do more to help in the fight against overpopulation.	a ₁ b ₄ c ₁
20.	The population explosion is a serious danger to the survival of humanity.	a ₁ b ₁ c ₂
21.	Cutting industrial productivity is too big a sacrifice to alleviate the pollution problem.	a ₂ b ₄ c ₂
22.	Little can be done to lessen the likelihood of the use of nuclear weapons.	a ₃ b ₃ c ₂
23.	I personally am not able to do anything that will help prevent the use of nuclear missiles.	a ₃ b ₃ c ₁
24.	My own life will not be threatened by increases in	a ₁ b ₁ c ₁

completed the Conservatism Scale first. A measure of conservatism was included as a marker variable in view of the fact that it is a well established pervasive dimension of social attitudes (Triandis, 1971; Wilson, 1973).

RESULTS

A 25-by-25 correlation matrix comprised of the measure of conservatism and the responses to the 24 belief statements was factor analyzed by the principal components method. The first seven factors had eigen values greater than 1.00 and were orthogonally rotated using the Varimax procedure (Kaiser, 1958). These factors together accounted for 60.57% of the variance. The variable loadings ≥ 0.30 on each factor and the variance accounted for by each factor are presented in Table II.

As can be seen from Table II, Factors 1, 5, 6 and, to some extent, Factor 4 were primarily concerned with the problems of pollution and overpopulation; Factors 2 and 7 dealt with the problem of nuclear weapons and Factor 3 dealt with all three issues. The factors will be discussed in this order.

Factor 1 was defined by acceptance of the seriousness of the problems of pollution and overpopulation, by concern for what can be done to solve them and by personal commitment, that is, by the belief that one ought to be more actively involved in their solution. Of note was the absence of significant loadings on items suggesting the need for more social action. The one exception was the high loading on item 10, that everyone be encouraged to have smaller families. This was explained by the fact that this item, unlike the other social action items, did not imply social change initiated by the authorities but rather a personal commitment by each member of the community. The factor was labelled as a social responsibility factor on overpopulation and pollution.

In contrast to Factor 1, Factor 5 was defined by concern that social action be taken to overcome the problems of overpopulation and pollution. The negative loading on conservatism was not surprising given the social change theme of the factor. One unexpectedly high loading on Factor 5 was personal commitment to do more to prevent the use of nuclear weapons. This possibly reflects lack of participation in this area by those who are already actively involved in the problems of overpopulation and pollution.

Factor 6 clearly represented denial of a threat either to oneself or to humanity on the issues of overpopulation and pollution. Conservatism loaded most highly on this particular factor, and was accompanied by opposition to cutting industrial productivity to reduce pollution.

The items loading significantly on Factor 4 included the hopelessness of trying to overcome overpopulation, personal helplessness in relation to overpopulation and pollution, and denial of both pollution and nuclear

Table 2

Table of Factor Loadings ≥ 0.30

Items	1	2	3	4	5	6	7
1.Threat to my life re overpop.*						0.66	
2.Man's effectiveness re overpop.*				0.79			
3.Personal commitment re nuc. weap.			-0.36		0.58		
4.Man's effectiveness re poll.					0.70		
5.Personal concern re overpop.	0.47				0.44		
6.Society's lack of concern re overpop.*					-0.66		
7.Threat to life re nuc. weap.		0.66					
8.Personal effectiveness re overpop.	0.41		-0.59	-0.32			
9.Society's commitment re nuc. weap.							0.69
10.Society's commitment re overpop.	0.61						
11.Personal concern re poll.*	-0.67			-0.44		-0.50	0.34
12.Threat to man re poll.							
13.Personal effectiveness re poll.*			0.45	0.44			
14.Society's lack of concern re nuc. weap.		0.32					0.68
15.Personal commitment re poll.	0.67						0.34
16.Threat to man re nuc. weap.*		-0.74		0.30			
17.Society's lack of concern re poll.						0.32	-0.33
18.Personal concern re nuc. weap.*		-0.61					
19.Personal commitment re overpop.	0.71		-0.39				
20.Threat to man re overpop.	0.67					0.34	
21.Society's commitment re poll.*			0.62			0.30	-0.35
22.Man's effectiveness re nuc. weap.*		0.42					-0.47
23.Personal effectiveness re nuc. weap.*			0.77				
24.Threat to own life re poll.*	-0.40	-0.34		0.33		0.49	0.51
25.Conservatism							
Percent variance accounted for by factor	13.06	8.93	8.57	6.06	7.88	7.62	8.45

* These items were worded negatively.

weapons as a threat to mankind. It can be best described as a factor of avoidance although interpretation is not as clear as for the other factors.

Turning to the factors concerned with nuclear weapons, Factor 2 was defined in terms of the seriousness of the threat and concern about what can be done. The items suggesting active commitment either at an individual level or social level were not among the significant loadings. The factor was labelled as concern about nuclear weapons.

Factor 7 contrasted with Factor 2 in its emphasis on the need for action to solve the problems of nuclear armaments and pollution. Moreover, the emphasis was on action by the populace as opposed to action by the individual. The factor was thus labelled as support for action by the authorities against nuclear weapons and pollution. The association of items concerned with nuclear weapons and pollution on this factor was not regarded as unusual, given the wide publicity associated with the dangerous effects of radioactive fallout from atmospheric testing of nuclear weapons.

Finally, Factor 3 had significant loadings on items concerned with all three issues. The three items suggesting that the individual could do nothing about overpopulation, pollution and nuclear weapons defined the factor as one of personal powerlessness. Other items loading on the factor included conservatism and opposition to cutting industrial productivity.

DISCUSSION

The above results only partially support the notion of a general factor of doomsday consciousness. Beliefs about overpopulation and pollution do not appear to be closely related to beliefs about nuclear weapons. Nevertheless, Factor 1 clearly reflects concern and responsibility on the part of the individual to be involved in overcoming overpopulation and pollution—an attitude which is very much in the spirit of Ehrlich's "doomsday consciousness." It is noteworthy, however, that no such corresponding factor appeared in relation to nuclear weapons. The absence of such a factor raises the first of two possible explanations for the poor relationship between pollution and overpopulation on the one hand, and nuclear weapons on the other.

Compared with overpopulation and pollution, it is substantially more difficult for the individual to contribute to the prevention of the use of nuclear weapons. Involvement in overcoming pollution may take the form of refusing to act in a way which will be detrimental to the environment. Involvement in overcoming overpopulation may lead to having a smaller family. In order to prevent the use of nuclear weapons however, the individual must be involved in influencing political decisions at a national level. Not only is participation more difficult, but it is unavoidably of a political nature. Thus, the absence of nuclear

weapons as an issue on the social responsibility factor may reflect the difficulty for the individual to engage in any constructive activity other than political agitation.

The second explanation relates to the issue specificity of the denial factor which, contrary to expectations, included only items concerned with pollution and overpopulation. While the problems of pollution and overpopulation have been brought to public attention only recently, nuclear weapons and "the bomb" have received considerable publicity over the years since 1945. It may be that the denial factor with its high loading on conservatism reflects rejection of the "trendy" issues of overpopulation and pollution rather than a general tendency to reject anything which is labelled as threatening (Frank, 1961).

In spite of finding that some factors were concerned primarily with nuclear weapons while others were concerned with overpopulation and pollution, one of the anticipated general factors, personal powerlessness, did emerge. With its loading on conservatism, this factor may well reflect a more general attitude of anomie and powerlessness.

The final question to be answered is whether the structure obtained bears any resemblance to Terry's three problems of acceptance, concern and commitment to action. With regard to overpopulation and pollution, the orthogonal solution yielded three factors that bore some similarity to the above conceptualization—a denial factor (Factor 6), a social responsibility factor (Factor 1), and a need for social action factor (Factor 5). The major deviation from Terry's conceptualization is that the social responsibility factor covers not only Terry's second problem of concern but also touches on the problem of commitment. Thus, in the present study, feelings of concern are associated with the belief that one ought to contribute more to the fight against overpopulation and pollution. As mentioned previously however, items implying the need for social action, or social change, do not load significantly on the social responsibility factor, but rather cluster together on a separate factor (Factor 5). A similar distinction appeared with respect to the problem of nuclear weapons. Factor 2 was characterized by concern and acceptance of the seriousness of the problem while items with a social action orientation loaded on Factor 7.

While Terry proposes that acceptance, concern and social responsibility are three relatively independent goals in bringing about environmental consciousness, the present study suggests that concern and social responsibility are related problems. On the other hand, the analysis has revealed an independent factor which Terry regards as part of social responsibility, that is, support for social action programmes. It is therefore difficult to defend the position that education for environmental concern and responsibility is the answer to the environmental crisis, when the empirical evidence suggests that there is no graceful transition from feelings of concern and responsibility to environmentally conscious behaviour.

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