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Personal health and the social psychology of risk taking

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Abstract

Those who receive health education messages about specific risks do not always respond in a 'rational' manner by reducing or eliminating their exposure to the risk. This paper explores an explanation for the apparent reluctance of people to change their behaviour in response to information about health risks. It focuses on how people *interpret* the health warnings and on how people *perceive the risks* involved. The rationality of taking risks with personal health is discussed in relation to the values and the distribution of resources in contemporary Western society. It is argued that personal health constitutes a commodity which people are willing to trade off against other benefits.

Introduction

In the sphere of health, experts have been able to identify the causes of particular illnesses and make accurate predictions about the chances of people being affected. Such experts attempt to gauge the statistical probability of an event happening (Douglas, 1986; Morgan *et al.*, 1987; Hayes, 1992) and engage in what Lee (1981) has termed "objective risk assessment" which "is concerned mainly with the prediction of future events from statistical data provided from past events" (p. 6). Such expert knowledge has formed the basis of health education campaigns such as the anti-smoking one, which seeks to change people's behaviour by making them aware of the dangers.

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Faced with new information about a risk to their health people might be expected to amend their behaviour, alter their habits or change their environment to reduce exposure to the risk. However, the evidence is that people do not always respond in such a 'rational' manner to messages about risk (Bagnall and Plant, 1987; De Haes, 1987; Regis, 1988). A large number of people continue to smoke. Many eat unhealthy food. Others drink too much alcohol.

One explanation for this is that people tend to have *an inbuilt resistance to unwelcome information*. First-received information is most influential on people's attitudes and, as Slovic *et al.* (1980, p. 189) observe, a great deal of research indicates that once formed, people's beliefs change very slowly and are extraordinarily persistent in the face of contrary evidence. So, when experts present information on health risks that run contrary to people's existing knowledge and dispositions, there may be a psychological tendency to cling on to the original knowledge.

Another possible explanation of the failure to act 'rationally' in the face of health risk information centres on lay people's *cognitive limitations*. While experts, by definition, have access to the kind of statistical and research information necessary to estimate probabilities, lay people are unlikely to be familiar with the research evidence and, in any case, may not fully *comprehend* the significance of the information they are being given about health risks. Lay people enjoy neither the time nor the training to ponder all the available evidence nor to dwell on the possible repercussions arising from efforts to minimize exposure to the risk. Consequently, as Fischhoff *et al.* (1978) indicate, people are unlikely to make a purely rational response to risk information because this:

> assumes not only that people have full information, but also can *use* that information optimally, an assumption which seems quite doubtful in the light of much research on the psychology of decision making. (Fischhoff *et al.*, 1978, p. 192)

It would be all too easy, then, to dismiss ordinary people's perceptions of risk as failing to grasp the implications contained in the experts' objective probability statements on given risks. Yet this is a dangerous trap to fall into. As Offer (1989) has stressed, it is simply not good enough to dismiss such perceptions of health risks as "inadequate, muddled or mistaken". On the contrary:

> It matters very much to recognise and elucidate them, not least because they form the stock of interpretations which largely determine if and when people seek professional help (and of what sort) and their resistance or openness to efforts undertaken in the field of health education. In the absence of such an understanding, campaigns to increase participation in screening programmes, to ensure the completion of prescribed courses of antibiotics, and to alter attitudes and behaviour regarding diet and exercise are likely to meet unpredicted and possibly disappointing responses. (Offer, 1989, p. 136)

It is necessary, then, to understand what factors people take into account when deciding whether or not to act on the basis of the risk information received and whether or not to act in what might be seen as a 'rational' manner in the face of health risk information. This is where social psychology has made a valuable contribution to the study of risk. Though the research generally refers to 'objective' levels of risk as a kind of initial benchmark, it has also been concerned with the processes of interpreting risk and the factors affecting people's perception of risk (Green and Brown, 1978; Slovic *et al.*, 1980. Lee, 1981).

Perceptions of the level of risk

Many studies of the perception of risk have been concerned with the way people gauge the *extent* of risk they face as a result of a specific danger. Researchers have investigated the methods that ordinary people use to assess the amount of risk posed by a variety of dangers. At the heart of their studies lies the concern that people perceive the extent of risk according to criteria which make some risks seem greater and some risks less than the experts' judgements based on statistical probabilities of incidents occurring.

The starting point for analysing the divergence between expert and lay perceptions of risk lies in the methods lay people use to interpret risk information. Given new information about a specific risk, the 'person in the street' is faced with what is sometimes an awesome task of trying to decide how serious that risk is for them as an individual, what action they might take to minimize the risk and what penalties the avoidance of the risk might impose. To make sense of new risk information, then, it is not surprising that people resort to a set of mental strategies which simplify matters and allow quick decisions to be made about how to react to a given risk. People use what are called '*heuristics*'—rules of thumb by which to arrive at an assessment of the risk (Kahneman *et al.*, 1982). These heuristics involve the *simplification* of information by *comparison* of new risk information with other more familiar risks so that the severity of the risk can be evaluated. Rather than attempt to treat the new information as unique and assess its implications from scratch, there is a tendency to interpret the risk in relation to other more familiar risks.

A significant point about such heuristics, as Tversky and Kahneman (1982) have demonstrated, is that they involve consistent biases away from the objective facts about the extent of a specific risk. The result is that for the ordinary person certain kinds of risk *appear* to be more likely to happen than they really are. Other kinds of risk tend to be seen as less probable than experts would predict on the basis of their calculations.

Research in the field of social psychology has drawn attention to a number of key aspects of these heuristics and shown that perceptions of the extent of risk are crucially affected by:

- Fear about the severity of the damage potentially resulting from the incident should it happen—the 'dread factor'.
- The vividness of the risk.
- The frequency with which the risk is encountered.
- The sense of invulnerability common within the population.
- The tendency to dismiss low risks as negligible and not worth worrying about.

The *dread factor* has a strong influence on perceptions of the level of risk posed by a specific threat. As Slovic *et al.* (1980) have shown, potential global catastrophes such as nuclear accidents tend to be regarded as more of a risk by lay people than they are by the experts. This 'overestimation' of the risk by lay people reflects the horror with which they treat the potential results of such an event happening.

The *vividness of the risk* also affects lay perceptions of the level of risk. People regard themselves more at risk where they can easily imagine or recall a potential danger. Those events which are more shocking and easily imagined tend to stay at the front of people's minds and appear as a more likely risk. As Lichtenstein *et al.* (1978) have found, people overestimate the likelihood of death through dramatic and sensational events like natural disasters, murders and accidents, and underestimate the chances of death through less spectacular things like illnesses and diseases.

Two factors are significant in this context. First, where someone has *personal experience* of the potential danger then the risk tends to become more vivid and foreboding to them. If the person knows of the dangers at first hand—if they personally have suffered or have close knowledge of someone else who has suffered—the risk becomes all the easier to imagine. Second, *exposure to information* on the risk helps people to visualize the dangers (Thaler, 1983). The more frequently people are confronted with information on a particular risk the greater they tend to regard the risk; and the more dramatic the presentation of the information, the greater the degree of risk is seen to be. As Combs and Slovic (1979) found, the role of the mass media is important here. Where the *mass media* adopt a style of presentation which emphasizes catastrophic and dreadful outcomes, where they portray things in a dramatic and shocking fashion, the perceived likelihood of the event occurring is increased.

The *frequency of experiencing the risk* is another factor affecting perceptions of risk. As Douglas concluded from her review of the research, "In very familiar activities there is a tendency to minimize the probability of bad outcomes" (1986, p. 29). Where people are exposed to a risk frequently the evidence is that they tend to perceive the risk as less likely to happen than they would if they were exposed to the risk only occasionally. The more regular and routine is the exposure to the risk, the lower is the expectation that the risk "could happen to me".

Perceptions of risk are also affected by a *sense of invulnerability* and the attitude that "it won't happen to me". As Douglas goes on to stress, "The best established results of risk research show that individuals have a strong but unjustified sense of subjective immunity" (1986, p. 29). When assessing a risk such as the chances of being involved in a car accident, there is a predilection to focus on the times you drive a car and do not have an accident as reassurance that accidents are things that happen to other people (Slovic *et al.*, 1978). This tends to reduce the perceived level of risk connected with a given event or activity.

Finally, the research evidence points to the fact that people tend to *underestimate the level of risk where it is objectively a 'low probability' risk*: they "underestimate risks of events which are rarely expected to happen" (Douglas, 1986, p. 29). Under these circumstances there is a tendency for people to discount the risk almost entirely. A slim chance of something happening tends to get dismissed altogether and perceived as a risk hardly worth bothering about.

Attitudes towards taking risks

A second area of study within social psychology deals with the *attitudes* people hold about risks. Its

starting point is that people exposed to the same extent of risk from a particular danger may well differ in terms of their reaction to that risk. For some it might be unpalatable and unacceptable, for others tolerable and worthwhile. This is obviously very important in the area of health risks because it alerts us to the possibility that people will consciously recognise that an activity such as smoking poses a threat to their health but will 'accept' the risk and continue to smoke.

A straightforward explanation for such differences in attitudes to risk would be that people have *different personalities* and that this is at the root of the way people respond to risks. Within the discipline of psychology, one branch of research has been concerned with identifying a continuum from those personality types predisposed to taking risks to those who shun risks (*cf.* Zucherman *et al.*, 1964; Klausner, 1968). The simplicity of such an approach has great appeal. However, evidence to support the idea that there is a uniform personality trait that correlates with risk taking in all kinds of situations is not conclusive (Slovic, 1964; Jackson *et al.*, 1972; Adlaf and Smart, 1983). As Jackson *et al.* point out:

> Although many personality measures of risk-taking behaviour have been shown to correlate significantly with some independent index of risk taking (. . .) attempts to find convergent validity among various risk-taking measures have yielded discouraging results. (Jackson *et al.*, 1972, p. 483)

The evidence suggests, in fact, that the willingness to take risks depends on the situation and the particular risk as much as any deep-rooted personality trait. This is forcefully demonstrated by the way tolerance of a given level of risk is affected by *group pressure*. Where people operate in the group situation there is a tendency to see risky decisions as more normal and acceptable. There is plenty of evidence from social psychology and from sociology that groups exert pressure to conformity and that this conformity can involve taking riskier decisions than might otherwise have been taken (Kogan and Wallach, 1964; Dion *et al.*, 1970). Where the wider culture of the social setting is risk-oriented, the decisions tend to be even riskier (Brown, 1965; Dion *et al.*, 1970; Carlson and Davis, 1971). Reinforcement from the group means there is less fear of 'being wrong'. If others are taking the risk, it makes it more normal and reduces the fear of the risk. This is the essence of the '*risky-shift*'—the way in which people seem more willing to take risky decisions in group situations.

Tolerance for a specific level of risk is also influenced by the extent to which people feel *responsible* for taking the risk. As Starr (1969) indicates, risks that are involuntary and which "happen to you" cause more concern than risks "you willingly take". "As one would expect, we are loathe to let others do unto us what we happily do to ourselves" (Starr, 1969, p. 1235). What matters is the extent to which people can make a choice about whether or not to take a risk. Starr estimates that the public are willing to accept risks from voluntary activities (e.g. skiing) that are 1000 times greater than an involuntary, imposed risk. Developing the point, Douglas (1986) has argued that the attribution of blame is a major influence on the acceptability of risks. This accounts for why people regard natural risks (flood, earthquake, etc.) as more acceptable than man-made risks. There is no one to blame (except the 'creator'!). It also accounts for the acceptability of risks where "you only have yourself to blame" if things go wrong.

Tolerance of risk is related to the extent to which the risk is seen as involving potential loss or gain. This approach originated from the study of natural disasters (e.g. White, 1952) and, more recently, has developed around ecological concerns and the prospects of nuclear disasters. It has spawned a branch of the study of risk which is concerned with people's tolerance of large-scale hazards (e.g. Starr, 1969). Through a version of cost–benefit analysis, it has tried to quantify the magnitude of risk which people are willing to accept. The aim is to calculate objective levels of risk acceptability which engineers, economists and politicians can use as standards which operate in a given society.

Developing from this perspective, attitudes to a given risk have been shown to depend on a kind of personalized cost–benefit analysis. So, for example, as Kahneman and Tversky (1982) demonstrate,

people tend to be more willing to take risks where they are faced with situations involving losses and, conversely, less willing to take risks if it involves jeopardizing a definite gain for the uncertain chance of a larger gain. They weigh up the odds and compare the potential costs and the likely gains.

The costs and benefits are not simply assessed at an individual level without reference to others. Tolerance for a given risk also depends on a perception of whether or not a risk is *equitably shared*. The acceptability of a risk has been shown to depend on the *extent to which the risk is evenly shared by those who stand to benefit from the cause of the risk* (Slovic *et al.*, 1980, 1981). So, for example, those in the vicinity of a nuclear power station may take into account the fact that the risk faced by themselves is far greater than the risk faced by others on the national grid whilst the benefits in terms of electricity production are shared evenly.

For experts, the 'cost' element of a cost–benefit equation is generally measured in terms of the likelihood of fatalities or death rates. This is because not only is death regarded as the severest outcome, it is also a measurable phenomenon on which to base statistical analyses of the risk. Research by Slovic *et al.* (1980), however, found that "lay people incorporate other considerations besides annual fatalities into their concept of risk" (p. 192). When weighing up risks attention is focused not only on the likelihood of death but also on the time-span involved in the undesired outcomes. Specifically, lay people incorporate into their estimations of the severity of risk:

(1) Whether the end result is immediate or delayed.
(2) The degree to which the end result is long-term or short-term in its effect.

Time is important—not only in an absolute sense but also in the way people perceive time and the meaning of time for people in different circumstances. As King has noted:

> The word 'risk' (. . .) embodies the idea of the future which for many patients is an irrelevant consideration. The very old, the very young and the very poor live from day to day in which 'the future' is tomorrow not 25 years' time. (King, 1984, p. 54).

This suggests the introduction of some *qualitative* element into the calculations. Further evidence for this comes from findings that, for the non-expert, death may not be perceived as the worst possible outcome of a risk (Green, 1979; Lee, 1981). For lay people there are fates worse than death. For example, permanent extreme disability might be regarded as a more severe outcome than instantaneous death.

In the psychological approaches to risk taking dealt with so far, the main motivation for engaging in, or avoiding, risky behaviour has been taken to be the 'anticipated rewards' resulting from that behaviour (Heimer, 1988). People's attitudes to the risk, from this perspective, are shaped by their understanding of the likely outcome of taking the risk. An alternative perspective within the discipline, however, sees risk taking as a product of 'internal needs'. Taking risks is seen as satisfying some inner need (physiological, psychological or neurological). Risk creates stress which, in turn, meets a need created by the build-up of stress hormones in the body. Or risk situations meet a mental need for stimulation or arousal. Either way, risk-taking situations help *resolve* inner needs rather than cause the needs in the first place.

This adds a rather different perspective on risk taking. It suggests that taking risks might actually have benefits in its own right—irrepective of the anticipated outcome from taking that risk. It points to the fact that risks may be taken for their own sake and that the experience of taking the risk can be sought after in terms of its own rewards quite separate from the potential gain which might result from having taken the risk. As Lyng argues:

> some people place a higher value on the *experience* of risk taking than they do on achieving the final ends of the risky undertaking. (Lyng, 1990, p. 852)

Lyng, however, is adamant that the motivation behind such enjoyment of taking risks does not have to lie in biological drives. He argues, instead, that the enjoyment of taking risks is a response to the

social conditions of the contemporary industrial world. Lyng's research focuses on the case of sky-diving to illustrate the point that, for some people, risks are actively sought and valued in their own right. Some people get a buzz from taking risks—risks that can threaten their life—and these people are becoming more and more prevalent in contemporary Western society. It is, as Lyng argues, an interesting paradox that while much effort is being devoted to reducing health risks in certain areas there are definite trends towards taking more risks in others.

> While there seems to be a general agreement among members of American society about the value of reducing threats to individual well-being, there are many who actively seek experiences that involve a high potential for personal injury or death. High-risk sports such as hang gliding, skydiving, scuba diving, rock climbing, and the like have enjoyed unprecedented growth in the past several decades even as political institutions in Western societies have sought to reduce the risks of injury in workplace and elsewhere. (Lyng, 1990, p. 852)

The growth of high-risk activity, according to Lyng, arises as an antidote to the constraints and tedium of life in modern industrial society. As a re-assertion of their individuality people are turning to 'edgework'—activities that "involve a clearly observable threat to one's physical or mental well-being or one's sense of ordered existence" (p. 857). More and more people are engaging in activities which stretch to the limit their capacity for survival. For more and more people:

> the dearth of possibilities for spontaneous and self-realising action in the economic and bureaucratic spheres can be compensated for in the leisure-time pursuits of play, particularly those forms of play that involve both risk and skill. (Lyng, 1990, p. 870)

Implications for health education

The starting point for this paper was the question of why some people fail to react rationally to health risk warnings. What we have discovered is that the way people respond to messages about health risks will be affected by the way they interpret risks. To this extent there is some support for the 'Health Belief Model' that has been influential within health education. The Health Belief Model identifies key factors which prompt people to seek medical advice and which affect people's willingness to follow a prescribed course of medical treatment. According to Becker and Maiman's (1975) review of the literature, social-psychological research generally supports the Health Belief Model's premises that people's willingness to seek and comply with medical advice depends on (1) their perceived susceptibility to a specific illness, (2) the perceived severity of the illness, (3) the likely success of treatment, and (4) the perceived costs of treatment in terms of the stress, side-effects and possible discomfort associated with the course of treatment.

> In summary, (. . .) data from research examining acceptance of many different health and medical care recommendations in a variety of circumstances and settings indicate generally reliable and interpretable relationships between compliance and perceptions of susceptibility, severity, benefits and costs. (Becker and Maiman, 1975, pp. 16–17)

As we have seen, the social psychology of risk taking goes some way to explaining *how* people come to assess the chances of being affected by a risk and *how* they interpret the potential severity of a bad outcome. As Green and Brown (1978) found, people's perceptions of the level of risk stem from "conjecture based on *images* rather than on technical judgements and enumeration" (p. 151). Images which are horrible are easily remembered and this heightens the level of risk associated with them. Hence the image of a nuclear holocaust, the image of the down-and-out drug addict, the image of the blackened lung are all powerful; however, where the risk is less easily portrayed in dramatic fashion people will be less likely to imagine or recall the risk. The dangers of alcohol, perhaps, demonstrate this problem. It may be more difficult to establish in people's minds bold images when alcoholism and the like do not necessarily carry such horrific external signals of the

danger. This aspect of the perception of risk links with the use of a 'shock-horror' approach to things like drug education. Notwithstanding the misgivings of contemporary health educators about the 'shock-horror' approach (De Haes, 1987), the research evidence suggests that the "dread factor" and the "vividness of the risk" serve to heighten people's perception of the extent of risk.

We have seen, also, that people tend to underestimate risks that they face routinely compared with the risks they face just occasionally. In terms of risk taking, *familiarity breeds contempt*. This ingredient may help explain why so many people can ignore health education messages about dangers to their health. Smoking and alcohol consumption are likely to fade in significance as a risk when compared with other self-induced risks to personal health like skiing or parachuting. However, add to this the fact that people tend to have a sense of invulnerability which is difficult to break—"*it won't happen to me*"—and the fact that where the risk faced is a low probability risk there is a tendency to dismiss it as irrelevant and "*not worth bothering about*", and there is a very strong recipe for ignoring health educators' messages about risks to personal health.

Evidence on the factors affecting people's tolerance or otherwise of risk has possibly an even greater bearing on the success of health education messages. Having arrived at a conclusion about the extent of risk they face, people can vary in their attitude to that risk. For some, a given level of risk may be acceptable—for others it may not. Holding aside the inconclusive research on individual differences in personality, we tend to find certain risks are tolerable and others not depending on:

- Who is responsible for creating the risk.
- The extent the individual stands to gain or lose.
- The extent to which risks are equitably shared.
- The social climate in which the risk is taken.

The 'risky-shift' brought about by group pressure means that where a health risk is taken under the auspices of a group people may be prepared to accept higher levels of risk. Drug taking, drinking alcohol and even smoking tobacco have a *social* element to them which might induce the individual to tolerate higher levels of risk to personal health than would be the case were the risk to be experienced outside the group context—in isolation. Risks which can be diffused as a shared risk, a risk in common with others, carry less threat. There is evidence, indeed, that people seem to operate on two different standards depending on whether the risk is one facing society in general or whether it is a personal risk (Green, 1979). If the risk is specifically one faced by the individual there is a tendency to perceive the likelihood of it happening as greater than if it is a diffuse risk faced by people in general. Health education, therefore, might be more effective if it conveys the impression that the specific risk is faced by the individual in isolation. In terms of persuading people to avoid risks to their health, health education might benefit from consciously cutting away the support mechanisms of the group to make people perceive the risk as one specifically and uniquely affecting them.

Control is another factor influencing the extent to which people are prepared to tolerate specific risk. As Starr's research has shown, self-induced risks—risks perceived as being 'under control' and risks for which the individual sees him/herself as responsible—are tolerated far more than externally imposed risks. This being the case, we can predict that the public's reaction to health risks like water pollution will be less tolerant than their reactions to self-induced risks like smoking and alcohol. Smoking and alcohol consumption are essentially health risks which stem from personal choice. These risks are perceived as being within the control of the individual. The question of secondary smoking is likely to evoke more passionate responses because the risk involved arises outside the sphere of choice or control of the person at risk. There is a clear link here with the notion of the 'Health Locus of Control' (Lau, 1982). There is empirical evidence that those who "perceive themselves as being in control of (and thus responsible for) the course of events which they experience" (Regis, 1988, p. 7) in relation to their personal health are less likely to engage in practices which endanger their health. Those who perceive an 'external' locus of control—where health-related matters are caused by factors outside the individual's

control—are more likely to take health risks, e.g. being more likely to smoke (Regis, 1988; Eiser *et al.*, 1989).

Risks that are imposed externally are also potentially less acceptable depending on whether the risk is perceived as shared equally in relation to who stands to benefit or lose. A passive smoker may well object to the health risk because he/she shares the risk with active smokers but does not get the 'pleasure': the cost−benefit equation does not work the same for both parties.

The social psychology of risk, thus far, provides health education with some tangible advice about its strategies for the delivery of messages about health risks. However, where the evidence points to the fact that people might actually enjoy the experience of risk and actively seek life endangering situations, the persuasiveness of health education messages faces a searching challenge. An analysis of the meaning of risk encourages us to go beyond matters of tolerance and acceptability of risks to recognise that, under certain social conditions, people will actively *seek* risks and obtain pleasure from engaging in activity which endangers their health and their life. It is here that we begin to get some critical insight to the hesitancy among parts of the population to alter their behaviour in a way that reduces health risks.

As Lyng has argued, 'edgework' challenges the supposition that people will necessarily strive to reduce risks to their health. In the social context of contemporary Western society there are contradictions which encourage people to minimize their exposure to health risks and, at the same time, also foster a tolerance of, even an active seeking of, risks to personal health. As Lyng's work demonstrates, people can seek risks as an antidote to the numbing bureaucratic constraints of the industrial organization of contemporary Western society. His argument, though, is that such life-risking experiences offer an opposition to the social norm. Despite the growing numbers involved, edgework remains in opposition to the mainstream cosseting conformity of routine life. As depicted by Lyng, it contradicts the mainstream orientation towards survival and the protection of health. This, however, possibly underplays the level of ambiguity towards risk that exists *within* the mainstream values. In business and in sport, in games and in entertainment, risks are normal. Success without taking risks is almost inconceivable. Against this background, taking risks with health may not seem so 'non-conformist'. Participation in physical sport offers an obvious example of the contradiction built into the values of Western industrial societies on the issue of health risks. The argument that participation in such sports is good for health is one which few would immediately find controversial. However, equally, few would deny the risk of broken limbs or long-term damage to joints that are associated with many physical sports. The growth of sports injury clinics bears testimony to the dangers involved. Other than in the case of boxing there seems to be little outcry about the dangers. Our society seems to regard the risks as acceptable. Now, to the extent that young people are encouraged to take up sports in the pursuit of health and fitness, it could be said that our society positively encourages us to take voluntary risks with our health.

Recognition of this fact is worth combining with a further problem for the success of health education messages. An underlying assumption of health education is that, faced with a health risk, people will wish to do something about it. However, lay people's attitudes to health risks may not actually concur with this. The fact that health risks cannot be totally eliminated provides people with the rationale for a certain *fatalism* in connection with health (Offer, 1989). Rather than react to health risks as an issue to be resolved health risks may be seen as normal and inevitable—as a fact of life. Life is risky; death is certain. If you do not die one way you will die another. It is simplistic, as lay theories recognise, to assume that health risks can be remedied in an absolute fashion. Avoidance of a heart attack at 50 may open the possibility of cancer at 60 or a stroke at 70. The reality for the public is one of weighing up alternative health risks—not avoiding health risks altogether. Reduction in one risk simply opens up the prospect of another. To the extent that this is the case, messages about specific health risks may be limited in their impact. Against this background, persuading someone to give up a pleasure becomes all the more difficult.

This point has been emphasized by Eiser *et al.* (1989) in their study of smoking among adolescents. They found in their survey of over 10 000 young adults aged 11–16 years old that belief in 'chance' health outcomes served to ameliorate the impact of health education messages about the risk of smoking.

> Beliefs in 'chance' health outcomes as opposed to 'powerful others' and 'personal control' may well limit the persuasive power of messages about the potential harm of cigarette smoking, even by 16 years of age. If harmful consequences are viewed as relatively more dependent on chance and less under personal control, then the arguments for refraining from smoking will be seen as less convincing. (Eiser *et al.*, 1989, pp. 1064–1065)

Davison *et al.* (1991) effectively endorse this point in their recent study of lay epidemiology. Their interviews with 180 adults in South Wales revealed that people can identify likely 'candidates' for coronary heart disease using a set of criteria not wholly divorced from the professional medical model (p. 5). Those interviewed were generaly able to apply this retrospectively to others who had suffered coronary disease—they referred to smoking, diet, weight, etc., to explain why that person had been affected—and they were able to use the criteria to predict who was likely to be affected in the future. They were even able to relate the risks to themselves and the likelihood of suffering coronary heart disease. However, the lay epidemiology contained in the accounts of these interviewees contained another crucial ingredient—fate.

> A strong element of the public image of heart disease (and of the sudden fatal heart attack in particular) is that it is a random killer. In the course of our field investigation we have observed that, even though most of our informants have professed the opinion that heart disease is to some extent preventable or postponable, the idea that it could happen to anyone (at any time) is omnipresent. (Davison *et al.*, 1991, p. 14).

There were two interwoven strands to the thinking. There was a set of criteria by which people could be identified as 'candidates' for heart disease. However, this only established a probability not a certainty and whether a person actually suffered heart disease would also incorporate 'bad luck' and 'fate'. The lay epidemiology

> . . . cannot account for all coronary disease and death, nor can it account for the apparently unwarranted longevity of some of those the system itself labels as candidates. Thus the observation that 'it never seems to happen to the people you expect it to' becomes integrated as a central part of the system itself. (Davison *et al.*, 1991, p. 15)

The point is that such a lay epidemiology is not mistaken or wrong. From the *individual's* point of view there is clearly an element of uncertainty irrespective of lifestyle, diet, smoking, etc. However, this element in lay theorizing is a "potential barrier to the aims of health education" because it gives substance to the feeling that, ultimately, poor health is a matter of bad luck or fate.

Regis (1988) found a similar health belief in his research on young people and smoking. Those who smoked tended to express a distinctly higher 'Chance Locus of Control' in which those who took the health risk recognised that they were subjecting themselves to a real risk but came to terms with it by seeing it as part of the Russian roulette of life. Regis writes:

> Rather than arguing 'It'll never happen to me', my subjects seem to be suggesting that although it may happen to them, there's no point doing much about it because 'if the smoking doesn't get you then something else will'. (Regis, 1988, p. 8)

The decision to take risks with health, for whatever reason, as portrayed so far, may give the impression that those who take such risks tend to operate as free agents in terms of their response to risks. It assumes that people have choice in terms of their reaction to risks and that they can decide for themselves whether or not to reduce a risk. This is apparent in the Health Belief Model's focus on people's *willingness* to seek medical advice and follow a course of medical treatment. It does not focus on people's *ability* to seek and follow treatment other than in terms of non-compliance and medication errors associated with extremes of age: "the very young are more resistant

to ingesting bad tasting medicine, (. . .) geriatric patients more often experience problems of forgetfulness or self-neglect'' (Becker and Maiman, 1975, pp. 19–20). The Health Belief Model does not really address factors which constrain people's choices in relation to health. In effect, it overlooks the extent to which *social* factors outside the control of the individual impact on the choice.

The Health Action Model (Tones, 1987), for its part, pays significantly more attention to the impact of social factors on the decision to take, or avoid, risks to personal health. The 'normative' system is built into the Health Action Model with explicit reference to the role of community norms, national norms, the influence of peer groups and the influence of significant others.

> The Health Action Model is concerned with the ways in which the interaction between cognitive factors (knowledge and beliefs), a 'Motivational System' (consisting of values, attitudes and drives) and pressures from social norms and significant others may combine to affect an individual's intention to act. (Tones, 1987, pp. 307–308)

The impact of social norms on decisions about health related behaviour is thus well catered for within the framework for analysis presented by Tone's Health Action Model. It recognises the key point: *any choices that occur in relation to risks with personal health occur not in a vacuum but in a social context which makes certain options more feasible than others* (Douglas and Calvez, 1990). Workers at a nuclear power station, those who work with asbestos, oil-rig workers, etc., all face health hazards. Even if they are fully aware of those hazards they may not feel able to leave the jobs. There are social considerations such as income and family commitments which mean that people are faced with the prospect of *tolerating* health risks they would prefer not to have. Put in social context, the attitudes to health risks will depend on other resources and commitments held by the individual.

Bellaby's (1990) study of a factory in the pottery industry illustrates the point. He observed that the workers (males) in the kiln and sliphouse areas of the pottery tolerated health risks arising from the hot/dry extremes of the former and the wet/cold extremes of the latter in a way that workers in other situations would not. The health risks actually served a positive purpose, argues Bellaby:

> The hot/dry and cold/wet extremes in which the kiln and slip men worked (. . .) were not seen as 'external', but as the internal source of each group's resistance to pollution of its way of life from without (by femininity and management among other threats) (Bellaby, 1990, p. 471)

Unlike Lyng's sky divers, these workers did not relish risking their health for the thrill or excitement of it. They only took the risk because they perceived it as worthwhile in terms of the social rewards taking risks bestowed on them; it gave them control over the situation in which they worked. A similarly instrumental approach to taking risks was found by Bellaby in the case of supervisors and middle management in the factory who often put their own health and safety at risk.

> In pursuit of production targets and bonuses, they sometimes made 'running repairs' to machines, occasionally (two cases in one year) at the cost of serious injury; alternatively, they sped from one job to another and (in their own eyes) endured more stress than was good for them. (Bellaby, 1990, p. 471)

They did not do this for fun or kicks. They risked health as a strategy to cope with the 'in-between' status they held in the factory—no longer shop-floor workers, not quite full management. For them, ''risk-taking was both their chance of advancement and their insurance against loss of standing in the eyes of management and other workers'' (p. 471).

People will be prepared to take risks with health, then, even though they recognise the dangers, because they regard the benefits of the risk as worthwhile. This being the case, two things follow. First, personal health can usefully be seen as a *commodity* which people own and are willing to trade-off against present or future benefits. Second, people do not regard the preservation of personal health as a must 'at any price'. Life has certain pleasures, amonst which personal health is one. But

this is not to say that people are always willing to strive for personal health 'at all costs'. Quite conscious of the dangers, some people will continue to risk their health in the pursuit of money, excitement or pleasure.

Conclusion

At first glance it seems reasonable to suppose that, faced with the expert medical opinion about a health risk, *rational people will modify their behaviour to reduce risks* to their personal health. However, as we have seen the psychological evidence indicates that people do not operate on a purely rational basis in connection with risks, and what is true for perceptions of risk in general applies equally to risks associated with personal health (Harding and Eiser, 1984).

There are other factors that will affect the success of health education messages. These hinge on the idea that if people continue to risk their health despite clear information about the dangers the answer lies not in dismissing the behaviour as irrational but in understanding lay theories of health in which:

- Health risks in general are seen as unavoidable.
- Chance plays a significant role in deciding which individuals actually suffer.
- Personal health is treated as a commodity which has its price.
- Society has an ambivalent attitude towards taking risks.

The message for health educators is that prolonging life at all costs is not what people subscribe to. There is a social paradox of risk in which contemporary Western society values risk taking in some spheres but seeks to reduce it in others. For health education this suggests that risk reduction *per se* cannot be assumed as a basic motive and that successful health education programmes will need to sell the advantages of personal health in the face of competition from other commitments and preferences that people have.

Personal health needs to be viewed more as a resource which can be traded against other benefits. Unwillingness to alter habits and life-styles to maintain health, from this perspective, has a certain rationality. Adopting a kind of personal cost–benefit analysis, personal health risks are deemed 'acceptable' for the sake of other resources or pleasures. It suggests that survival and the pursuit of health may not be ultimate goals for which people are willing to sacrifice all else. Rather, broadly in line with Tones' (1987) Health Action Model, health education messages need to recognise that the pursuit of health is something which has to be 'sold' to the customer in terms of the customer's personal preference—outweighing other preferences and commitments the person might have.

There are, however, two important caveats to this conclusion. First, focusing on health as a commodity to be traded for alternative rewards has a tendency to address an individualistic notion of health education along the lines of that offered by O'Donnell in which health promotion is seen as "the science and art of helping people to change their lifestyle to move toward a state of optimal health" (O'Donnell, 1986, p. 4). As Hayes (1992) argues, this underplays the role of factors beyond the control of the individual in shaping health policy. The World Health Organization (WHO) definition, for its part, acknowledges such factors by seeing health promotion as "the process of enabling people to increase control over, and improve, their health". In its full version, argues Hayes:

> The WHO definition acknowledges determinants of health that are embedded in social structure and therefore beyond the individual's control, in addition to determinants over which the individual may have control. It advocates a social-ecological approach to health, and individual and community empowerment to address both types of determinants. (Hayes, 1992, p. 403)

The second caveat follows from this. Selling personal health as a preference will be effective only in so far as people are in a position to 'buy'. Where people do not have the resources to adopt a healthier lifestyle the message will appear to have no impact. The crucial point here is that, deprived of the necessary resources to exercise choice, for some people health risks have to be tolerated (rather than accepted).

Social class, employment, disability, age and poverty have a bearing on the resources available to the individual and should not be ignored as factors impacting on risk taking with personal health. As Douglas has stressed (Douglas, 1986; Douglas and Wildavsky, 1982; Douglas and Calvez, 1990), risk-taking is essentially a social phenomenon embedded in a social context.

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