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Resilience: Some Conceptual Considerations

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"Resilience" and "Invulnerability"

All studies of risk factors have shown a very considerable variability in how people respond to psychosocial adversity. Even with the most dreadful experiences, it is usual to find that a substantial proportion of individuals escape serious sequelae (1). Over the last 20 years, there has been an increasing focus on this phenomenon as it has seemed to carry hope for successful prevention (2–4). The implicit assumption has been that, if only we knew what it was that enabled people to "escape" damage from serious adverse experiences, we would have the means at our disposal to enhance everyone's resistance to stress and adversity.

At first, influential writers tended to refer to *invulnerable* children (5). Fortunately, this extreme notion has gone out of the headlines. It has been replaced by the rather more acceptable term *resilience*. However, in our considerations of the phenomenon of resilience, it may be useful to consider briefly just why the notion of *invulnerability* was so unhelpful. First, it seemed to imply an absolute resistance to damage. The reality, of course, is that no one has absolute resistance; rather, it is more appropriate to consider susceptibility to stress as a graded phenomenon. Some individuals are more resistant than others, but everyone has their limits. Second, the term suggests that the characteristic applies to all risk circumstances. Obviously, that is a biologically implausible suggestion. There is a range of mechanisms by which risk factors operate, and it must be anticipated that the features that constitute resilience will vary according to the risk mechanism. Third, the concept seems to imply that the characteristic is an intrinsic feature of the individual. That is misleading because research findings indicate that resilience may reside in the social context as much as within the individual. Fourth, the term suggests that it deals with an unchanging characteristic. That, too, is wrong because there is every reason to suppose that developmental changes will influence resilience just as they influence any other characteristic.

The Study of Resilience

These considerations are emphasized because, although it is entirely appropriate for us to grasp hold of the optimistic promise of the phenomenon of resilience, it is crucial that we avoid thinking of it as some single answer to life's problems. It is not like that at all. Moreover, there are several different sorts of problems that need to be borne in mind when considering research into this very important phenomenon. This is not the time or place to go into the technical details but it is necessary to mention a few of the main concerns about the study of resilience. To begin with, as with the whole of science, it is essential that we appreciate that our measures are fallible and incorporate a good deal of error in measurement (6). That means that, if we are to assess resilience by just one measurement at one point in time, much of what seems to be resilience will be no more than meaningless error. The main solution to this measurement problem lies in making sure that we have access to several different sources of meas-

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urement and, ideally, that we have measures that are repeated over time.

The second main concern is that we must deal with the issue of diversity in outcome. Unfortunately, there are too many studies of resilience that take just one type of psychopathology as a criterion and then draw conclusions on resilience on the basis of individuals who do not have that particular outcome. For example, there are studies that have taken variables such as antisocial behavior as the outcome. The findings have shown that some of the supposedly resilient children show depression, and this is then described as the "price" of resilience. That seems to me a most misleading way of thinking about things. Rather, we need to appreciate that people may suffer in a range of different ways and that it is important that our measures accommodate this diversity. The third concern is that we must get away from thinking of resilience only in terms of the "chemistry of the moment." That is wrong because, as we shall see, the evidence clearly indicates the importance of both preceding and succeeding circumstances. If we are to understand the phenomenon of resilience, it is necessary that we take a much longer time perspective and, moreover, that we do so within an appropriate developmental framework.

Resilience and the Exposure to Risk

Some "lessons" emerge from what is known about the factors associated with variability in people's responses to physical hazards of various kinds. Thus, we need to pay attention to research findings in the field of medicine as a whole and, indeed, in biology more generally. The first finding that is immediately striking is that resilience does not usually reside in the avoidance of risk experiences, or positive health characteristics, or generally good experiences. Thus, for example, immunity to infections, whether natural, or therapeutically induced through immunization, derives from controlled *exposure* to the relevant pathogen, and not through its avoidance. Resilience results from having the encounter at a time, and in a way, that the body can cope successfully with the noxious challenge to its system. In short, resistance to infection comes from the experience of coping successfully with lesser doses, or modified versions, of the pathogen. Perhaps the same may apply in the field of psychosocial stresses and adversity.

The second feature that stands out in any review of resistance to disease is that the risk or protective influences may stem from experiences at a very much earlier age. For example, it is now apparent that relative subnutrition in early infancy (as indexed by low weight at birth and during the first year of life) creates a much increased risk of coronary artery disease and heart attacks in middle age (7). The mechanisms are not fully understood but it seems likely that the early subnutrition may increase the organism's susceptibility to unduly rich diets in mid-life. Note that it is being *under*weight in infancy that predisposes you to heart disease, whereas it is being *over*weight in middle age that creates the risk. The lesson is that risk factors may operate in different ways at different age periods. This is by no means an isolated finding. Not only is this particular connection over time replicated but also there are a variety of other well-documented examples of the ways in which early experiences have influences on health and illness in adult life (8). We may suppose that somewhat similar phenomena may well apply in the psychosocial arena.

The third feature is that it is necessary to focus on risk mechanisms and not on risk factors (4). That is because the same feature may be a risk in one situation and a protective factor in another. For example, heterozygote status for sickle-cell disease is obviously a risk factor for that disease. However, interestingly, it constitutes a protective factor against malaria. In the psychological field, one might view adoption in the same way. That is being adopted is clearly a protection for children born into an extremely deviant biological family, but being adopted also carries with it some psychological risks, albeit small ones. The point is simply that we must get away from thinking in terms of characteristics that are always risky or protective in their effects and, instead, focus on the specific processes that operate in particular circumstances for particular outcomes.

The Origins of Risk and Adversity

With those general considerations in mind, we may consider some of the specifics as they apply to resilience in the face of psychosocial risk factors. The first point to note is that evidence from behavior genetics suggests that in many (but not all) circumstances, nonshared environmental influences tend to have a greater effect than shared ones (9,10). What that means is that, on the whole, features that impinge equally on all children in the same family are rather *less* important than those that impinge differentially so that one child is more affected than others. In other words, it may be that it is less important that the *overall* family atmosphere tends to be a rather

unloving or discordant one, than that one child is scapegoated and another is favored. Several practical implications flow from this observation. First, it means that, given some family-wide risk factor (such as discord or parental mental disorder), protection may reside in children being able to, as it were, distance themselves to some extent from what is going on. Thus, it is clear that, when parents quarrel and fight, some children tend to get drawn into the dispute and may become a focus of disagreement and a target of irritability and hostility, whereas others are able to remain protectively separate and uninvolved. Similarly, clinical observations have suggested that when a child has a parent with a serious mental illness, it may be protective for them to recognize that their parent is truly ill, and to have some of their most-important emotional ties outside the family. Another implication is that it is necessary to consider *individualized* aspects of children's experiences. For example, Jenkins and Smith (11) found that children were protected by a good relationship with *one* parent when the family as a whole was characterized by overall discord.

A rather different consideration concerns the question of where adverse life experiences come from (12,13). That may seem a curious question to ask but it needs asking because it is so obvious that stresses and adversities are not randomly distributed in the population. Some children have far more than their fair share of psychosocial hazards, whereas other children experience remarkably little serious stress and adversity. The findings on reasons for individual variations in exposure to risk environments bring out several important points. First, it is clear that people's own actions and behavior do much to shape and select environments that they later experience. For example, Robins's (14) classical follow-up study of boys with conduct disorder showed that, as compared with a general population control group, they had much higher rates in adult life of unemployment, disrupted friendships, broken marriages, lack of social support, and poor living conditions. Of course, in a real sense, these adversities in adult life represented a continuation of their psychosocial problems but it is equally true that by their behavior, they were creating for themselves a range of risk experiences that are known to predispose to depression and various other psychopathological outcomes. It's important to emphasize that, just because people bring about their own experiences, it does not mean that they are unaffected by them (15). Thus, people *choose* whether or not they smoke cigarettes but the fact that they have chosen to expose themselves to carcinogens and carbon monoxide in no way negates the fact that smoking creates a serious risk for lung cancer, coronary artery disease, and various other conditions in adult life.

The importance of this observation in relation to the phenomenon of resilience is the implication that people can do a good deal to influence what happens to them. In that connection, it is relevant that our own research (16) and that of Clausen (17) have shown the protective effects that stem from young people actively "planning" how they deal with what happens to them in important domains of life such as marriage or work careers. In our follow-up study of institution-reared children, many of their later problems stemmed from the fact that they felt at the mercy of fate and did not take active steps to deal with the life challenges as they presented. It appears that resilience may be fostered by steps that make it more likely that people will feel in control of their lives and become effective in shaping what happens to them.

Of course, the answer to the question of where adverse life events come from is by no means restricted to individual considerations. It is clear that, to an important extent, part of the answer lies in societal factors. For example, the fact that in the United Kingdom, as in the United States, the unemployment rate in young people is much higher among black youths than among white youths is largely explicable in terms of racial discrimination. These population-wide influences do not determine individual differences to any marked extent but they do play a major role in determining the overall *level* of good and bad experiences of various kinds.

The Origins of Resilience

It was noted earlier that resilience could reside in both preceding and succeeding circumstances. In that connection, it is important to recognize the importance of potential turning points in people's lives whereby those who seemed set on a maladaptive life trajectory are enabled to turn onto a more adaptive path (18). For example, Elder's (19) analysis of the California longitudinal study data indicated that for young men from a disadvantaged background, early entry into the Armed Forces proved to be a protective factor in relation to adult outcomes. That seemed to be because entering the Army enabled them to continue their education and also allowed them to postpone marriage to a time when they were both more mature and also were in contact with a wider social group than that prevailing in their ear-

lier disadvantaged circumstances. Of course, it is not that being in the Army was in of itself an experience that led to resilience. Indeed, people from a nondisadvantaged background who entered the Army at a later age tended to find the experience a very disruptive one because it interrupted their careers and interfered with their family life. Rather, it is that, in certain circumstances, Army experiences brought with them other benefits that helped to create greater resilience. Once more, the point is that we need to think in terms of person-specific circumstances and not just in terms of something that brings about general good.

It should be noted that, as with the Army example, many of the important turning points that bring with them enhanced resilience occur in adult life. For example, our own research has shown the important protective influence associated with a harmonious marriage to a nondeviant spouse (16). It may be felt that that is not a very helpful finding in that we can scarcely write out prescriptions for good marriages for people. However, a developmental perspective shows that there are, in fact, important policy and practice implications. That is because it is not accidental whether people make a harmonious marriage to a nondeviant person; to an important extent, it is predictable in terms of their prior behavior and experiences. We found that, on the whole, people who exerted planning in their lives were more likely to make a successful marriage. It was necessary, then, to go back one stage further and ask what it was that made it more likely that people would show a planning tendency. Our results showed that, for children from a disadvantaged background, positive experiences at school made planning more likely. The mechanisms remain ill understood but probably what is happening is that success in one arena gives people positive feelings of self-esteem and self-efficacy that make it more likely that they will have the confidence to take active steps to deal with life challenges in other domains of their lives. It should be noted, incidentally, that the positive experiences at school (at least for this group) did not mainly concern academic success. The positive experiences were quite varied and extended from success in sport or music or arts and crafts to positions of social responsibility within the school. The implication is that the experience of pleasurable success is probably helpful in enhancing those aspects of the self-concept that promote resilience.

The third key concept to mention is that of individual variations in susceptibility or vulnerability to adverse experiences that stem from sensitizing or "steeling" experiences at an earlier point in people's lives. It is clear that stress experiences may work in either direction, but there is a paucity of evidence to tell us which consequence is to be anticipated in each circumstance. However, animal evidence indicates that acute physical stressors lead to lasting neuroendocrine changes that are associated with increased resistance to later stress (20). One study of children's admission to hospital showed that those who had experienced previous happy separations (staying with friends or grandparents) were less likely to be upset by admission (21). By analogy with the example of infections given earlier, we may suppose that "steeling" effects are more likely to arise when people have coped successfully with stress experiences. For example, to turn again to the Elder, et al., California studies (22) of young people growing up during the Great Economic Depression, older children who had to take on increased responsibilities, and did so successfully, tended to fare better as a result, whereas young children who were less able to cope with all that was involved tended to suffer.

It is important also to recognize that individual differences in susceptibility to adverse experiences may derive from personal characteristics that have an important constitutional component (23). For example, the temperamental characteristic of behavioral inhibition studied by Kagan, et al. (24), in human infants and by Higley and Suomi (25) in monkeys represents a feature of this kind. It is certainly important that we recognize the reality of these intrinsic individual differences, but equally it's important that we appreciate the ways in which they seem to work. Two key features may be mentioned. The first is that, although behavioral inhibition clearly has an important genetic component, environmental influences are also important (26). How children are dealt with makes a difference to their temperamental characteristics. The second point is that these temperamental features do not lead inevitably to any form of disorder (27). Rather, they influence how people respond in particular stress or challenge circumstances. In other words, what is important is the interplay between people and their environments. That interplay is potentially open to influence in either a beneficial or a harmful direction. It is up to us to undertake the type of research needed in order to find out how to influence interactions in the appropriate direction.

The fifth point concerns the importance of how people appraise their circumstances. Research into life events has made it clear that contextual factors are most important (28,29). The same event is likely

to be viewed quite differentially by different people. For example, for some people, promotion at work is seen as an awful burden, bringing with it terrible worries as to whether the person can cope with the increased responsibilities. For other individuals, by sharp contrast, promotion is seen as a welcome challenge and a public recognition of their own positive personal qualities. It is clear that cognitive factors play an important role in emotional disturbances and also in how people deal with social problems of various kinds. A recognition that this is so has led to the development of various forms of cognitive behavioral therapy (30) and of interventions designed to enhance successful social problem solving (31). It's too early to know how these methods compare with more traditional therapies but, in the right circumstances, they do seem effective and also to carry the potential benefit of providing skills and attitudes of mind that may be helpful in dealing with later stresses and challenges. Almost certainly, it is not that there is one "right" way of thinking about things, or one optimal style of coping. Rather, what seems important is to approach life's challenges with a positive frame of mind, a confidence that one can deal with the situation, and a repertoire of approaches that are well adapted to one's own personal style of doing things.

Protective Processes

The last consideration concerns the influence of protective mechanisms (4). They refer to catalytic or reverse-catalytic effects by which a feature modifies the influence of some risk factor. Up until recently, the main focus in discussions on psychosocial risk has been on the reduction of adverse influences. Of course, that is an important goal but it is equally important to pay attention to those features that, while not directly promoting good outcomes, enhance resistance to psychosocial adversities and hazards of various kinds. Surprisingly little is known about protective mechanisms but some of the examples already under other headings (for example, the phenomenon of planning) probably work in this manner.

Because there has been so little study up to now of protective influences, no firm conclusions are warranted. Nevertheless, a review of what is known suggests that the protective processes probably include (a) those that reduce the risk impact by virtue of effects on the riskiness itself or through alteration of exposure to, or involvement in, the risk; (b) those that reduce the likelihood of negative chain reactions stemming from the risk encounter; (c) those that promote self-esteem and self-efficacy through the availability of secure and supported personal relationships or success in task accomplishment; and (d) those that open up opportunities of a positive kind (4). Protection does not reside in the psychological chemistry of the moment but rather in the ways in which people deal with life changes and in what they do about their stressful or disadvantaging circumstances. In that connection, particular attention needs to be paid to the mechanisms underlying developmental processes that enhance people's ability to cope effectively with *future* stress and adversity and those that enable people to overcome the sequelae of *past* psychosocial hazards. This needs to include consideration of the psychological operations associated with key turning points in people's lives when a risk trajectory may be redirected onto a more-adaptive path.

In this brief overview of conceptual issues concerning resilience, there has been a focus on the ways in which resilience seems to come about, rather than on the variables that are associated with stress resistance. These have been summarized by Masten and Garmezy (32) in terms of three broad sets of factors: (a) personality characteristics such as autonomy, self-esteem, and a positive social orientation; (b) family cohesion, warmth, and an absence of discord; and (c) the availability of external support systems that encourage and reinforce a child's coping efforts. The evidence does indeed support their conclusions that these features are associated with more beneficial outcomes for children exposed to psychosocial adversity. However, the reason these variables have not been considered in greater detail is that, from the point of view of prevention and intervention, the main focus has to be on *how* these features may be brought about.

Conclusion

As is all too evident from this brief overview, while we have an understanding of some key protective measurements, we do not as yet have any ready answers to how to bring them about. Moreover, as a review of prevention opportunities more generally shows (33), knowing what end you want to bring about and knowing *how* to achieve that objective are two very different things. We have some appreciation of *indicators* of risk and protective factors, a little understanding of the processes that they seem to reflect, but substantially less knowledge about how to influence those processes in order to increase resil-

ience. Nevertheless, there certainly are many positive leads and suggestions of *possible* ways in which resilience may be promoted. The efficacy of such possible ways of intervening remains largely untested and, while the ideas are not yet at a stage at which they can be translated into a specific program, they do provide important useful pointers towards various means by which the issue might be tackled.

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