

POSITIVE EMOTIONS

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Within the emerging field of positive psychology, the study of positive emotions, such as joy, satisfaction, pride or hope, has increased significantly in recent years. Furthermore, numerous empirical studies have shown the relationship between positive emotions and health, subjective well-being, creativity, resiliency, and so on. The present article discusses some of these studies and places them within the framework of the broaden and build theory of positive emotions, proposed by Barbara Fredrickson for explaining the adaptive benefits of positive emotions. Finally, we describe two positive emotions, elevation and flow, which are often overlooked, but are nevertheless important vehicles for individual growth and social connection.

Key words: positive emotions, elevation, flow.

Dentro del campo emergente de la Psicología positiva el estudio de emociones positivas como la alegría, la satisfacción, el orgullo, la esperanza, etc., ha cobrado gran importancia en los últimos años. Cada vez son más numerosos los trabajos empíricos que se centran en demostrar la relación entre la experiencia de emociones positivas y variables como la salud, el bienestar psicológico, la creatividad, la resiliencia, etc. En este artículo se exponen algunos de estos trabajos y se enmarcan dentro de la Teoría abierta y construida de las emociones positivas, propuesta por Barbara Fredrickson para explicar el valor adaptativo de estas emociones. Finalmente se describen dos estados emocionales positivos, la elevación y la fluidez, que suelen pasar desapercibidos y que sin embargo tienen importantes beneficios psicológicos y sociales.

Palabras clave: emociones positivas, elevación, fluidez.

The scientific study of positive emotions has traditionally been considered as a frivolous activity, and as such has been deemed to warrant little attention by researchers (Fredrickson, 2003). Moreover, the current interest in positive aspects is considered by many authors as a passing fad, or worse still, as a “re-hash” of things that were already well known. This may well be the case, but it is no less true that, however well known the aspects in question, an approach of such vital importance for human beings is indeed applied and practised.

The natural tendency to study that which threatens people’s well-being has led research to focus on negative emotions and to ignore the value of the positive ones. It is also true that the good things are taken for granted (Sears, 1983). It is a general belief that goodness is a characteristic representative of human beings (believing the opposite would make life much more difficult), so that it is considered as normal, and the normal does not seem to require too much explanation; its explanation is certainly not urgent.

However, in recent years this tendency is changing, and numerous psychologists have begun to study the adaptive function of positive emotions within the framework provided by Positive Psychology (Seligman, 2002; Selig-

man & Csikszentmihalyi, 2000). In this context, the cultivation of these emotions is becoming a valuable and powerful therapeutic resource for transforming the everyday life of many people into something fully satisfying and meaningful.

With a general information approach, though based on research published in scientific journals, the present article reviews the main results that justify the growing interest in this field, where there is undoubtedly much research to be done. The experimental study of such complex phenomena involves considerable difficulties, and many of the studies carried out so far have some methodological limitations: small samples, non-random samples, instruments that cannot measure the target phenomena directly, but only their various effects or expressions, and so on. This makes it essential to interpret the results with caution, but it also encourages those interested in the field to continue researching.

WHAT ARE EMOTIONS?

The biological source of the emotions is a set of nervous structures called the limbic system, which includes the hippocampus, the cingulate gyrus, the anterior thalamus and the amygdala. Apart from its other functions, the amygdala is the principal manager of the emotions, and its lesion annuls emotional capacity. The neuronal connections between these structures located in the reptilian

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brain and the neocortex are many and direct, ensuring a highly adaptive communication in evolutionary terms (Ledoux, 1996). Thus, we cannot really speak of thought, emotion and behaviour as separate entities; however, in practice, research divides them up to facilitate their study.

The task of defining complex constructs such as the emotions is not an easy one. Indeed, there is still intense debate and extensive research in relation to their source, their internal structure, the differences between affective states, and so on (Diener, 1999; Ekman, 1994; Parkinson, 1996, 2001).

In spite of these difficulties, there is a degree of consensus with regard to some of the characteristics of the basic emotions (Fredrickson, 2001), so that it can be considered that the emotions are response tendencies with high adaptive value; that they have clear manifestations at a physiological level in relation to facial expression, subjective experience, information processing, etc.; that they are intense but of short duration; and that they emerge as a result of the assessment of some antecedent event.

Such definitions would appear to be more appropriate for the study of negative emotions (fear, anger, disgust, sadness, etc.) than for that of positive emotions (joy, pride, satisfaction, hope, flow, elevation, etc.), basically because the former can be associated with clear and specific response tendencies, while this is more difficult in the case of the latter (Fredrickson & Levenson, 1998). Thus, for example, when people feel fear in response to something or someone, their automatic alert systems are activated, they rapidly prepare to flee or protect themselves, and their facial expression clearly reflects their feelings and is practically universally recognizable (Ekman, 1989). Such reactions will quite probably have permitted many individuals of our species to save their lives in critical situations, thus reflecting the immediate survival value of negative emotions (Izard, 1993; Malatesta & Wilson, 1988). In this regard, Robert Sapolsky, a neurologist at Stanford University, explains in a recent interview how in the face of imminent threat the body uses all its stored energy to activate the appropriate muscles and increase arterial pressure for accelerating energy flow; at the same time, it deactivates all types of long-term projects. As he light-heartedly adds, if you are being chased by a lion, you will choose another day to ovulate, you will delay puberty, growth will be out of the question, as will digestion, and you will postpone the production of antibodies until night-time... if you are still

alive (Punset, 2005).

In contrast, when someone feels happy the response tendency is more ambiguous and unspecific: they may jump for joy, but they may also feel inclined to joke, to help others, to make plans for the future, to flirt, to explore, and so on. The survival utility of these types of response is not so clear, mainly because it is not so immediate, but it should nevertheless not be overlooked. Indeed, it is possible to conceive of other types of benefit derived from positive emotions which, while they may not fit perfectly into the existing models, would justify the development of new specific models (Ekman, 1994).

THE VALUE OF POSITIVE EMOTIONS

Barbara Fredrickson has opened up a research line focusing on positive emotions and their adaptive value (Fredrickson, 1998, 2000b, 2001, 2003; Fredrickson & Branigan, 2000). She recently proposed the *Broaden and build theory of positive emotions* (Fredrickson, 1998, 2001), which maintains that emotions such as joy, enthusiasm, satisfaction, pride, indulgence, etc., although phenomenologically different from one another, share the property of broadening people's repertoires of thought and action and constructing reserves of physical, intellectual, psychological and social resources that are available for future times of crisis.

Experiencing positive emotions is always agreeable and pleasurable in the short term, and for this author they would also have more lasting beneficial effects, insofar as they prepare people for future, more difficult times (Fredrickson, 1998, 2001). Joy, for example, encourages us to play in the widest sense of the word, to push the limits, to be creative (Frijda, 1986) and this in turn permits the development and training of physical abilities (strength, resistance, precision), of psychological and intellectual abilities (comprehension of rules, memory, self-control) and of the social skills necessary for establishing relations of friendship and support. All of these abilities and skills, conceptualized as resources, can acquire considerable value at times of scarcity and of conflict, when access to speed, resistance, friends, capacity for innovation, etc., can make the difference between life and death.

The functions of positive emotions would complement the functions of negative emotions (Fredrickson, 2001), and the two would be equally important in the evolutionary context. If negative emotions solve problems of immediate survival (Malatesta & Wilson, 1988), given their



link to specific response tendencies (anger, for example, prepares us for attack; disgust provokes rejection, the urge to vomit; fear prepares us for flight), the positive emotions solve issues related to development and personal growth and to social connections. Negative emotions bring about ways of thinking that reduce the range of possible responses, while positive ones lead to ways of thinking that widen the range. Thus, positive emotions would have contributed to generating the appropriate conditions for our ancestors to develop the physical abilities necessary for dealing with predators, the psychological abilities for discovering and inventing possibilities, and the social abilities required for generating links between people and for the development of helping behaviours.

In a closer, more accessible context it is also possible to observe in an empirical way some of the benefits derived from the experience of positive emotions, and this is becoming the focus of more and more research carried out from the positive psychological perspective.

POSITIVE EMOTIONS IMPROVE THE WAY WE THINK

Numerous experimental studies have demonstrated that positive affect is related to more open, flexible and complex cognitive organization and to the ability to integrate different types of information (Derryberry & Tucker, 1994; Isen, 1987, 1990, 2000; Isen & Daubman, 1984; Isen, Daubman & Nowicki, 1987; Isen, Johnson, Mertz & Robinson, 1985; Isen, Niedenthal & Cantor, 1992; Isen, Rosenzweig & Young, 1991). The result of this way of thinking makes problem-solving more creative and judgements and decision-making more accurate and sensitive (Carnevale & Isen, 1986; Isen, 1993; Isen, Nygren & Ashby, 1988; Lyubomirsky, King & Diener, 2005).

One such experiment showed that diagnoses on hepatic diseases were more accurate when doctors were made to feel good simply by giving them a bag of sweets beforehand (Fredrickson, 2003). "More accurate" refers in this case to the fact that the doctors took less time to integrate the information on the case and were less prone to basing themselves on initial impressions, and thus, to making premature diagnoses.

Other experiments (Isen et al., 1987) show that induced positive affective states, whether the result of watching a comedy or being given a small edible gift, helped the creative solution of problems. Specifically, they appeared to increase original, unpredictable associations and un-

usual combinations of elements.

In a similar line, it has been found that people exposed to images eliciting different emotions (joy, calm, fear or sadness) differ in their form of processing visual information. On performing a categorization task with no right or wrong answers, but rather responses that reflect a global or local form of perceiving a configuration of elements, those who experience positive emotions tend to select more global configurations –that is, they see the wood more than the trees (Fredrickson, 2001).

The relationship between positive affect and open, flexible thinking was analyzed specifically in another empirical study (Fredrickson & Joiner, 2002). After taking repeated measures of various positive emotions and indicators of open and flexible thinking, these researchers observed a mutual reinforcement between the two variables: the presence of positive emotions predicted future open and flexible thinking, while open and flexible thinking predicted subsequent positive affect.

All such results suggest that, in general, positive emotions facilitate receptive, flexible and integrative patterns of thinking, favouring the emission of novel responses. It is quite possible that this form of thinking, and not the opposite one, preceded the great discoveries and those achievements widely accepted as the most important in the history of humankind. It is difficult to imagine Michelangelo annoyed as he painted the Sistine Chapel, an irate Newton under the apple tree, or Edison, Marie Curie or Pasteur feeling depressed in their laboratories. On the other hand, it is easy to imagine them thinking about possibilities and alternatives, combining apparently incompatible elements, absorbed in their task, and excited at the prospect of their progress towards a desired goal that is highly meaningful for them.

POSITIVE EMOTIONS ARE RELATED TO HEALTH

If we consider that health is something more than the absence of illness, and that positive emotions are also something more than the absence of negative emotions, we can conceive of the utility of positive emotions for preventing illnesses, for reducing their intensity and duration and for attaining high levels of subjective well-being (Lyubomirsky, King & Diener, 2005).

Stating that positive emotions are related to levels of subjective well-being or happiness surprises no-one; on the other hand, that they prolong life is a more conjectural assertion, which requires more substantial proof.

In this context, a revealing study, which moreover in-



cludes excellent experimental control conditions, analyzed the state of health and longevity of 180 nuns who, in 1932, just before entering their religious order, wrote brief autobiographical sketches on their lives and on their future expectations (Danner, Snowdon & Friesen, 2001). The rationale of this study was that, given the homogeneous conditions in which the nuns had lived, the only variable to which the differences observed in their state of health and longevity could be attributed was the presence of positive emotions in the accounts they had written before taking their vows. Those nuns whose accounts reflected positive emotions (joy, desires, happiness) enjoyed better health and lived a mean of ten years longer than those who practically did not express emotions. Ninety percent of the nuns from the "happier" group were still alive at 85, in contrast to 34% of the other group.

In another important study, researchers assessed the health and emotional state of 2282 persons aged over 65 and followed them up over a period of two years. The results showed that the experience of positive emotions protected older people from the more negative effects of ageing and from disability; more importantly it successfully predicted who would live and who would die (Ostir, Markides, Black & Goodwin, 2000).

In a recent study, 334 healthy volunteers aged 18 to 54 were assessed in relation to their tendency to express positive emotions (happiness, satisfaction and calm) and negative emotions (anxiety, hostility and sadness). Subsequently, all were nasally administered drops containing the common cold virus. The results showed that those with a positive emotional style had lower risk of contracting a cold than those with negative emotional style (Cohen, Doyle, Turner, Alper & Skoner, 2003).

A possible explanatory mechanism of this protective effect on health derives from the hypothesis that positive emotions undo the physiological effects provoked by negative emotions (Fredrickson, 1998, 2003). A specific response tendency associated with the experience of negative emotions is an increase in cardiovascular activity (blood pressure, heart rate, peripheral vasoconstriction), which over time is directly related to numerous illnesses. Several experimental studies have shown how cardiovascular recovery in people who had seen clips from films inducing fear was quicker when they were subsequently shown clips that elicited a positive emotion (joy or surprise) than when they saw film extracts that were emotionally neutral or that provoked sadness

(Fredrickson & Levenson, 1998), and how participants who smiled spontaneously as they watched an extract from a sad film recovered some 20 seconds before those who did not smile at all.

In another experiment the researchers provoked anxiety reactions in a group of students on telling them that in one minute they would have to give a speech on camera about why they considered themselves good friends, and that this speech would subsequently be assessed by their colleagues. In these conditions, four groups were formed: two watched films that elicited positive emotions (joy, satisfaction), one watched a film that elicited sadness, and a fourth group served as controls. The results (Fredrickson, 2003) showed that cardiovascular recovery in the participants who had watched the films eliciting positive emotions was more rapid than that of the control group, and much more rapid than that of those who watched the sad film.

Another possible action mechanism through which positive emotions would protect people from illness and disorders is that proposed by Aspinwall and cols. in a study which concludes that people who considered themselves happy were better at seeking out, assimilating and remembering information about health risks (Aspinwall, Richter & Hoffman, 2001).

Taken together, these data appear to indicate that positive emotions undo the negative effects generated by negative emotions, and that this would be associated with less wear on the cardiovascular system and a better state of health (Fredrickson & Levenson, 1998). This, combined with the fact that the experience of positive emotions predicts a high level of subjective well-being (this being understood as the average of positive and negative emotions) (Diener, Sandvik & Pavot, 1991), and that it also increases the probability of feeling good in the future (Fredrickson, 2001; Fredrickson & Joiner, 2002), makes it feasible to assign a leading role to positive emotions, at least in the areas of health and subjective well-being.

POSITIVE EMOTIONS INCREASE ONE'S CAPACITY TO COPE WITH ADVERSITY

Positive emotions also contribute to making people more resistant in the face of adversity, and help to build psychological resilience (Aspinwall, 2001; Carver, 1998; Lazarus, 1993; Lazarus, 1993; Lyubomirsky, King & Diener, 2005). Resilient people, those who in the face of adversity bend but do not break, are capable of experi-



encing positive emotions in stressful situations. Various studies have shown that more resilient people tend to experience high levels of happiness and of interest at moments of great anxiety generated experimentally (Fredrickson, 2001; Tugade & Fredrickson, 2004). The presence of positive emotions at times of adversity makes it more probable that people will make future plans, and such plans, together with the positive emotions, predict better psychological adjustment twelve months after having experienced a traumatic event (Stein, Folkman, Tra-basso & Richards, 1997).

Likewise, positive emotions protect against depression, even in the wake of a truly traumatic experience. In a study using measures taken before and after the September 11th attacks in New York it was found that persons who, together with the dominant emotions of anguish, fear, disgust and contempt, also experienced, after the attacks, positive emotions of gratitude, interest, love, hope, pride, etc. presented fewer depressive symptoms and more optimism, life satisfaction and calm. Positive emotions appeared to be an essential active ingredient which, in addition to helping resilient people not to sink into depression, contributed to increasing their psychological coping resources (Fredrickson, Tugade, Waugh & Larkin, 2003).

Just as a negative affective state leads to pessimistically-focused thinking, and in turn to a still more negative affective state, in a spiral of reciprocal influence that can eventually lead to clinical depression (Peterson & Seligman, 1984), a positive affective state, favoured by the experience of positive emotions, would lead to open, integrative, creative and flexible thinking that facilitates effective coping with adversity and at the same time increases future levels of well-being (Fredrickson, 2001; Fredrickson & Joiner, 2002).

THERAPEUTIC APPLICATIONS

Psychology has prioritized the study of all that which impedes, restricts or hinders people's development, and has devised effective strategies for correcting many deficits and disorders. While the experience of negative emotions is inevitable, and at the same time useful from the evolutionary point of view, it is no less true that such emotions lie at the heart of many psychological disorders (O'Leary, 1990; Watts, 1992). The conscientious interest of psychologists in studying them and manipulating them has made a notable contribution to reducing the suffering of many people, but the need to continue improving

the effectiveness of psychological treatment obliges us to explore new paths, and in such a context it does not seem outlandish to propose a more active role for the positive emotions in the prevention and treatment of numerous disorders. Indeed, it is even reasonable to suggest that part of the effectiveness of many of the psychological intervention techniques and strategies already developed is attributable to the fact that they generate positive emotional states, or create the conditions necessary for such states to emerge (Fredrickson, 2000a). Relaxation techniques, for example, are particularly widely used in the treatment of anxiety disorders, and, according to Fredrickson, are effective because, in one way or another, they bring about the appropriate conditions for contentedness (internal calm, perception of oneself and of one's relationship with the world). Imagining pleasant scenes (real or otherwise), acting out an agreeable situation with conviction, relaxing the muscles, and so on, are strategies that encourage a person to savour the present moment and that facilitate the integration of experiences.

Something similar occurs with behavioural techniques that propose an increase in the number of pleasurable activities for treating disorders such as depression. Obviously, doing pleasurable activities chosen by oneself increases the levels of positive reinforcement received and makes more probable the appearance of different positive emotions, which would counteract the presence of negative ones.

Cognitive therapies, for their part, stress the view that it is not the negative events in themselves that lead to depression, but rather people's explanations of them, generally internal, stable and global (Abramson, Seligman & Teasdale, 1978; Peterson & Seligman, 1984), so that they try and substitute these explanations for others that are external, unstable and specific. This strategy, known as learned optimism, has proved to be effective for preventing and treating depressive disorders. The key to its efficacy may lie in the attempt to annul the effect of negative meanings, though this does not necessarily imply substituting them with positive ones. However, it is this aspect on which some authors are beginning to insist, on proposing complementary strategies for finding positive meanings in everyday life, such as the positive reappraisal of adverse events, the positive appraisal of everyday events or the establishment and achievement of realistic targets (Folkman & Moskowitz, 2000; Folkman, Moskowitz, Ozer & Park, 1997). The empirical data



show that such everyday sources of positive meaning predict recovery, in the long term, from depressed affective states and of psychological well-being (Folkman, Chesney, Collette, Boccillari & Cooke, 1996), so that continuing to explore the possibilities of strategies focusing on the positive is highly relevant for research, and quite probably useful for increasing the effectiveness of treatments.

DESCRIPTION OF SOME POSITIVE EMOTIONAL STATES

Despite the fact that in our vocabulary there are more terms for referring to negative emotions than to positive ones (Averill, 1980), and that this probably makes us much more conscious of negative affective states than of positive and pleasurable ones (Avia & Vázquez, 1998), it is nevertheless possible to make an effort of self-observation to identify positive emotional states as a first step towards trying to intensify them.

There are more positive emotions than we might at first imagine, and they may revolve, according to Seligman (2002), around the past, the present and the future. Examples of positive emotions referring to the past are satisfaction, indulgence, personal accomplishment, or pride. Those referring to the present are, among others, joy, ecstasy, calm, enthusiasm, euphoria, pleasure, elevation and flow. Finally, positive emotions referring to the future are optimism, hope, faith and confidence. There follows the description of two positive emotional states referring to the present that tend to be overlooked, but which nevertheless involve significant psychological and social benefits.

Elevation

Elevation is a positive emotion experienced as a strong feeling of affect in the chest (Haidt, 2000, 2002). It occurs when we are witness to acts that reflect the best in human beings, and provokes a desire to be better people. It is what one feels when (with unfortunate infrequency) the news media report the story of an anonymous person who forgot about their own interest and risked their life for someone else, or, less dramatically, acted out of consideration for the good of others, and not their own. Elevation is what many people probably felt when they saw how, in the wake of the March 11th attacks in Madrid, hospital patients gave up their beds to the wounded, taxi drivers offered their cars free of charge to victims' families, the city's inhabitants volunteered in their

thousands to donate blood, and so on. Elevation is what we feel even on recalling such things.

The experience of this emotion makes it more probable that we want to be with, cooperate with and help other people (Isen, 1987; Isen & Levin, 1972; Oatley & Jenkins, 1996; Seligman, 2002), and this brings substantial psychological and social benefits. On the one hand, people who after feeling this emotion decide to take action and help others can feel proud of their good intentions and satisfied with their actions. And at the same time, the people being helped can feel another important positive emotion, gratitude, and those who are simply witnesses to this helping relationship can experience elevation, which will provoke further desires to be better people and to help others. This positive spiral has beneficial social effects in terms of solidarity, altruism, cooperation, etc., and contributes in an effective way to creating social support networks and to strengthening the social fabric. In sum, it makes for improved quality of life in communities, groups and organizations (Fredrickson, 2001).

Flow

Flow is a positive emotional state (Csikszentmihalyi, 1975, 1990; Csikszentmihalyi & Csikszentmihalyi, 1988) felt at times when we are totally involved in the activity we are doing, to the extent that nothing else seems to matter to us. People experiencing flow feel that they are in control of their actions and masters of their destiny; they feel a sense of jubilation and of profound satisfaction, beyond simple fun or recreation. This experience is in itself so pleasurable that it leads one to continue with the activity, despite the presence of costs and obstacles.

Flow occurs when the person's capacities or skills are in equilibrium with the challenges of the activity. In such circumstances, attention is focused on the achievement of a realistic goal, the feedback obtained on performance level is immediate, and one actually forgets oneself. A colloquial expression that neatly sums up this state would be of the type: "while I was doing... time just flew by".

Numerous activities are capable of producing flow: playing chess, painting, climbing, running, composing and playing music, dancing, writing, and so on. It is easy to see the beneficial social and cultural effects of total involvement in such activities: works of art, pieces of music or sporting achievements that go down in history, and which, in sum, come to reflect what distinguishes human beings from the other animals. But moreover, it is

possible to experience flow in the course of activities that have not been freely chosen, or that are reinforced extrinsically (by a salary, for example), and which at first sight would not appear to be chiefly motivated by the pleasure of doing them. Csikszentmihalyi (1990) describes fantastic experiences of flow in surgeons, assembly line workers, scientists, mothers looking after their children, concentration camp prisoners, and so on. The point is that some individuals manage to transform routine tasks, boring jobs or truly adverse circumstances into subjectively controllable experiences, from which they can extract some degree of satisfaction, and which on occasions have brought about discoveries, innovations or creations that changed the course of history.

For the positive perspective within psychology, which we would qualify as, while perhaps not new, certainly important and necessary, there is a great deal of work ahead. First of all, it must overcome the limitations involved in research on emotional processes. Psychology, as Ruut Veenhoven points out, has been more successful in understanding thought than in understanding emotion, and while it is clear that events and their appraisal evoke affective experiences, the internal production of such experiences is still barely understood (Veenhoven, 1994). Moreover, it is necessary to identify the antecedents, the elicitors of different positive affective states, to make progress in the development of valid and reliable measures, to gather evidence about their effects on different variables, and to explain the precise mechanisms that lead to such effects.

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