

The Challenge-and-Response Model of Normal Anxiety

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Abstract This article attempts to provide a conceptual framework placing anxiety in a personal growth perspective. The authors first discuss two different theories of anxiety, review some structural models of anxiety, and stress that anxiety should be studied as a certain kind of relation or interaction between the subject and her stimuli. Then a challenge-and-response model of normal anxiety of its cognitive components is established, which sorts anxiety into heteronomous one and autonomic one, and supposes that heteronomous anxiety includes two dimensions: the fall between the level of external challenge and the level of self challenge, and the importance of the external challenge. Some related evidences for the preceding hypothesis are examined, and then compared with related models. Finally, based on the model, a valid coping strategy of anxiety was put forward, from which the mechanism of normal coping style of anxiety in daily life can be well understood.

Keywords Anxiety · Cognitive components · Challenge-and-response · Psychological fall · Coping strategy

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Anxiety is a complex combination of the feeling of fear, apprehension, and worry often accompanied by physical sensations such as palpitations, chest pain and/or shortness of breath. It is a pervasive variable that permeates our daily life and modern civilization. The previous century has been labeled the age of anxiety; however, this title may be more suitable for the current one. Then how anxiety arises, what its components are, and how to cope with it have been becoming a focus of attention of normal people and psychologists.

Let us first discuss Higgins' and Bandura's conceptualizations of anxiety relevant to our topic, then review some structural models of anxiety. And then, we will present our challenge-and-response model of normal anxiety, discuss its validity on the basis of both empirical research and real-life situations. We will also discuss the coping strategy of anxiety within the context of this model.

Higgins' and Bandura's Conceptions of Anxiety

Higgins (1987) presented the theory of self-discrepancy. According to this theory, the actual self is your representation of the attributes that someone (yourself or another) believes you actually possess; the ought self is your representation of the attributes that someone (yourself or another) believes you should or ought to possess (i.e., a representation of someone's sense of your duty, obligations, or responsibilities). If a person possesses the actual/ought discrepancy, from his own standpoint, the current state of his attributes does not match the state that the person believes it is, or some significant others consider to be, his duty or obligation to attain. Because violation of prescribed duties and obligations is associated with punishments, then the person is predicted to be vulnerable to

agitation-related emotions (e.g., tense, afraid, threatened, fear, edginess), and that's anxiety.

Bandura (1994) defined perceived self-efficacy as people's beliefs about their capabilities to produce designated levels of performance that exercise influence over events that affect their lives. Self-efficacy beliefs determine how people feel, think, motivate themselves, and behave. He found that perceived self-efficacy plays a central role in anxiety arousal. People who believe they can exercise control over threats do not conjure up disturbing-thought patterns. But those who believe they cannot manage threats experience high anxiety arousal. "Threat is not a fixed property of situational events, nor does appraisal of the likelihood of aversive happenings rely solely on reading external signs of danger or safety. Rather, threat is a relational property concerning the match between perceived coping capabilities and potentially aversive aspects of the environment (Bandura 1989, p. 1177). Whether an event is a threat, is not determined only by the aspects of the event, but by the individual's perceived self-efficacy on this matter.

Their theories are of great help for us to understand the complicated and pervasive feeling, anxiety. They all take the self-evaluation and appraisal as the core structure of anxiety, but it is equally evident that the degree of anxiety also varies with the context. The degree of anxiety on different persons, even when aroused by the same stimulus, may have a significant discrepancy. Moreover, the level of anxiety also varies with time going on. Thus both their theories of anxiety are limited in that they cannot fully account for the discrepancy and variation of anxiety level in specific contexts. In doing so, we must know clearly the anxiety's structural components first.

The Structural Model on Anxiety

In what follows, we will first examine some structural models on anxiety.

Kessen (1961) summed up the theoretical communalities proposed, and found those theories of anxiety shared three common elements. They all have called on an archetypical evoker of anxiety to explain the first occurrences of anxiety, and on the association of neutral events with the archetypical evoker in order to account for learned, or secondary anxiety, and finally emphasized on flight (escape or avoidance) from trauma or its signals as the basic mechanism for the control of anxiety.

Some experts in the field of anxiety have argued that generalized anxiety disorder (GAD) is the "basic" anxiety disorder and that understanding the processes involved in GAD has implications for understanding all the anxiety disorders (Craske and Hazlett-Stevens 2002).

A cognitive-behavioral model of GAD was proposed (Dugas et al. 1998). The model includes four process variables thought to be involved in GAD: intolerance of uncertainty, positive beliefs about worry, negative problem orientation, and cognitive avoidance. Intolerance of uncertainty is the excessive tendency of an individual to view the potential occurrence of future negative events as unacceptable, irrespective of the probability of their occurrence. It may be a key factor involved in the development and maintenance of pathological worry and GAD, and may also be a central theme in a number of the anxiety disorders. Positive beliefs about worry such as "worry helps to solve problems" or "worrying can directly alter events" are related to worry. Negative problem orientation is related to pathological worry. Cognitive avoidance consists of a constellation of primarily internal strategies aimed at curtailing distressing thoughts and threatening image (Dugas et al. 2005). All main components of the model were highly related to the discriminant function and that intolerance of uncertainty was pivotal in distinguishing GAD patients from non-clinical subjects.

Eysenck's four-factor theory of anxiety identifies the sources of information which jointly determine the level of anxiety experienced in any given situation (Eysenck 2000). According to the theory, there are four main sources of information which influence the extent to which attention is paid and the way in which the information is interpreted: external stimuli; internal physiological stimuli; one's own behaviors; and one's own cognitions (e.g. worries about the future). He also emphasizes that what is important is not the four sources of information per se but rather the way in which information is processed. More specifically, it is necessary to focus on attentional and interpretive process.

Spielberger (as cited in Endler and Kocovski 2001) suggested that conceptual anxiety could be introduced to multifaceted definitions of anxiety by distinguishing trait anxiety from state anxiety. Trait anxiety is an individual's predisposition to respond, and state anxiety is a transitory emotion characterized by physiological arousal and consciously perceived feelings of apprehension, dread, and tension. The distinction between trait and state anxiety is analogous to the distinction between potential and kinetic energy.

Endler (1997) advanced a multidimensional interaction model of anxiety, conceptualized that both trait anxiety and state anxiety are multidimensional constructs. There are at least four facets of trait anxiety: social evaluation, physical danger, ambiguous, and daily routines; and two facets of state anxiety: cognitive-worry and autonomic-emotional. For a person by situation interaction to induce an increase in state anxiety, the threatening situation must be congruent with the facet of trait anxiety being investigated. An individual who is high on a specific facet (e.g., physical

danger) of trait anxiety, when in a stressful situation (i.e., physical danger) that is congruent with that facet of trait anxiety, the individual's level of state anxiety will increase. There will be no increase in state anxiety if that individual is not in a stressful situation (e.g., social evaluation). In other words, interactions are not expected when the stressful situation is not congruent with the facet of trait anxiety under investigation. The level of state anxiety is dependent upon both the individual's facets of trait anxiety and the specific situation (Endler and Kocovski 2001).

Most theories are associated with the research of diagnostic classification of psychopathological anxiety. More pervasive as it is, normal (psychometric) anxiety is only paid very little attention. It is this kind of anxiety that every one of us is suffering all the time. Failing to efficiently cope with normal anxiety can also interrupt our daily life fiercely, do harm to our health, and maybe develop into anxiety disorders some day. So the primary interest in the present discussion is to clear the structural components of normal anxiety, and then to find how to cope with it efficiently.

Of course, studying anxiety basing on the research of anxiety disorders is a regular and valid method. It is helpful to pick up the decisive factors from the complicated relations, and to find an efficient therapeutic to such disorders as soon as possible. Also, it is generally assumed that there is a continuum between normal and pathological anxiety, and studying anxiety disorders equals studying anxiety itself.

But we found that the foregoing theories based on pathological anxiety are not so fit to account for the normal anxiety we encounter everyday. The theory Kessen summarized succeeds to describe the situation of the clinical patients. But the reason why normal people are suffering anxiety is almost because of the intractable challenges, not because of the events they have to escape or avoid. Further, the anxiety's terminating or reducing is usually associated with the settlement of the current main challenge, not necessarily with any archetypical event. The cognitive-behavioral model of GAD provides a valuable interpretation to this psychiatric disorder, but comparing with normal people, the impact of some factors (e.g., positive beliefs about worry) may be move magnified on the patients. What is more, the model only emphasizes the importance of the vulnerable personality, neglecting the specific-situation-aroused anxiety, which limits its universality sharply. Eysenck's theory identifies the four main sources of information which may influence the process of attention and interpretation (Eysenck 2000), which indicates he has begun to study anxiety on the basis of the interactions of personality and situations. But the differentiation to the sources of information he made is not entirely according to the importance of the information to the individual (but it is just the importance or the value that determines the process

of attention and interpretation); consequently, not all the four factors embody the interactions of personality and situations, so it is not good enough. Although Eysenck's differentiation is meaningful to some extent, it is not so necessary.

What we have analyzed above suggests that these theories are apparently limited in accounting for normal anxiety, cannot provide satisfying explanation on its discrepancies, changes, and how to cope with it. What is more, a general factor has been found which can differentiate each of the patient groups (including PD, GAD, OCD, SOCP, etc.) from the no mental disorder group (Zinbarg and Barlow 1996). This may hint that there is a qualitative difference between anxiety disorders and normal anxiety, and that anxiety disorders cannot be thoroughly equated with anxiety itself. To specify what constitutes normal anxiety, we must go outside of a purely clinical framework.

The theory of trait and state anxiety and Endler's multidimensional interaction model contribute much in understanding normal anxiety. The differentiation of trait and state anxiety is very meaningful, which indicates that anxiety is studied as the interaction between person variables and situation variables. Endler's model, in which trait and state anxiety are both considered as multidimensional constructs, provides further interpretations on how this interaction occurs. But after that Endler committed himself to expand more facets of trait anxiety (Endler and Kocovski 2001), that is a departure from the way he had adhered to. When he excessively concerned with the facets of trait anxiety, the person variables, he unwittingly ignored the situation variables' significance in the interaction, it is been a wrong way. To clarify the structure of normal anxiety, what is really important is to sift out the more general factors that exert their influences in every facet of trait anxiety. Then we will present our model on this point.

Another point, when studying anxiety, we shall never forget that anxiety, in essence, is a kind of relation between the subject and his environment, is a kind of interaction of personality and situations. Since anxiety exists as a certain kind of relation between the subject and his stimuli, it cannot be understood entirely when this kind of relation is split. That is, every one of the anxiety's structural components has to manifest the properties of the relation, not the subject's properties, and not the stimuli's properties, too. Every component must be a bridge from the subject to the object. Once the bridge is cut off, that is, when a certain component becomes the exclusive handmaiden of the subject or the stimulus, the component will mean nothing for us to understand anxiety.

As mentioned above, this point is expressed by Bandura specifically, it is also indicated in Eysenck's theory, and it

is getting more clear and begins to show its tremendous significance for us to understand normal anxiety when it enters experiential studies of Spielberger, and especially, Endler. And we found that the disadvantages of the foregoing theories mostly originated from neglecting this criterion to some degree, or from the fact that this criterion was ignored to be executed all along (e.g. in Endler's multidimensional interaction model) (Endler 1997). So, the criterion that anxiety should be studied as a certain kind of relation or interaction between the subject and his or her stimuli, is the second framework in which we establish our model of normal anxiety.

The Challenge-and-Response Model of Normal Anxiety

The celebrated historian Arnold Toynbee (1961) proposed, when studying the rise and fall of civilizations, that each of the historical entities, through its physical and historical environment and through its inner development, must stand the test, when faced with problems and that whether and how it responds to them decides its destiny. In the development of such series of challenge-and-response, personality or civilization is becoming more and more the environment of itself, the challenge of itself, and the battlefield itself. The meaning of advancement is, not at all in conquering whatever challenges coming from the external environment, but in the progress of the ability of controlling on all kinds of human desires. In other words, when the development of personality is closer to its high phrases, the deficiencies it holds will become more and more the main obstacle of its further progress. Only through constructing greater self-discipline continuously on the basis of the rigorous rules imposed by the external challenges, can advancements be maintained.

It is dangerous to attempt to believe that there is a kind of causality between environmental stimuli and behaviors or emotions. If we accept the hypothesis as the base of all the human laws, that man is basically reasonable, he/she has the ability to, and moreover, he/she should take the responsibilities of his/her own behaviors, then we should admit that it is not the stimulus itself, but the individual's interpretations and appraisals on it that become the direct cause of the subsequent behaviors and emotions. That is to say, we think that the cognitive theory of emotion is a defensible proposition. Since only through the individual's interpretations and appraisals can the influences of any stimulus exert, it is not appropriate to directly take the stimulus as the cause of the subsequent behaviors and emotions. But stimulus is still one of the two ends of the interaction between person variables and situation variables, we need not throw it away simply when studying behaviors, emotions, or any other interactions. Here, while

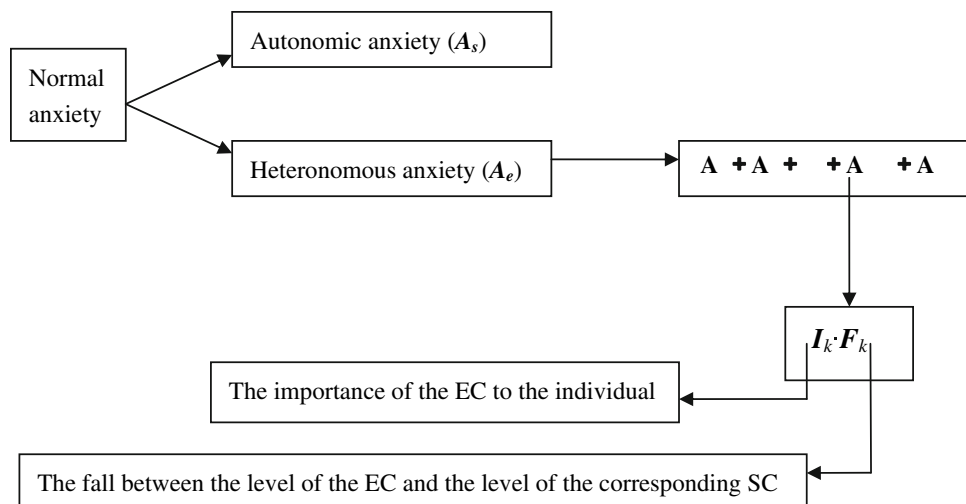
agreeing with Toynbee's point, we emphasize a challenge, instead of a stimulus when discussing the interaction of anxiety.

There are two kinds of challenges. One kind of challenge comes from the environment of the organism; it is the problem against which the individual must stand the test. This kind of challenge is not freewill, but imposed by the reality; we call it an External Challenge (EC). The other, we call it a Self Challenge (SC), is freewill, not imposed; it is the individual's voluntary demand on himself for his actualization before any environmental stress appears. Anxiety stands on the fall of the levels between the External Challenge (EC) and the Self Challenge (SC). The SC, which is dragooned into a high level under the pressure of a higher and sudden EC, represents a response of the individual to the EC. Consequently, we name our model a challenge-and-response one.

External Challenges can come from any facet that you can imagine, social evaluation, physical danger, interpersonal relationship, etc. To any facet, every one has her SC. If we do not have any extra SC on a certain facet, its level in this facet can be looked as zero. The level of self challenge in some sense equals the self-efficacy belief in the corresponding field. Since self challenge is freewill, we would not destroy our self-confidence deliberately with tasks far beyond our capacities. So for any ECs which are as difficult as our SC, we usually have the confidence to accomplish them. But in real life, ECs are always imposed in spite of whether we have the ability or not. On a certain aspect, if the level of the EC is beyond the level of the SC, unfortunately it is very common, we would not be so confident any longer. With such a kind of unavoidable external challenges, a feeling of threat and weakness is aroused, and that is anxiety. The higher the fall of the two levels, the higher the anxiety. We have mentioned Bandura's point of view (Bandura 1989); he believes that threat is not an inherent property of the environmental event itself, but a property of the relation between the potentially hurtful aspects of the environment and the individual's self-efficacy. This relational property he rested, we think, is just the fall of the EC level and the SC level. Only when such a fall exists, can the corresponding environmental event be a threat. The fall, using a familiar and simplified formulation, is the task difficulty we perceive and estimate.

On the other hand, since anxiety is a certain kind of relation between the subject and the stimuli, the tightness of the relation must influence the degree of anxiety. No matter how difficult the task is, if we do not think it has anything to do with us, no anxiety arises. Here, the tightness of the relation between the subject and the stimuli is described with the word "importance (I)", which indicates the degree of the importance of the EC the stimuli aroused on the individual. So, the degree of anxiety (A) triggered by

Fig. 1 The challenge-and-response model of normal anxiety



a certain EC is determined by the importance (I) of the EC and the fall of the EC level and the SC level together. Then as far as a certain EC (k) is concerned, the degree of anxiety it triggered (A_k) can be expressed mathematically as $A_k = I_k \cdot F_k$. Here I_k stands for the importance of the EC to the individual, F_k for the fall between the level of the EC and the level of the corresponding SC.

Here, we hypothesize a multiplicative interaction between the importance and the fall of the levels, to replace a normal linear hypothesis. The reason is that when we are very confident to make it and the fall approaches zero, there will be no or only very little anxiety even the task is very important, and vice versa. What is more, an inverted U-shaped relation has been found between stress increments and arousal anxiety increments (Wilken et al. 2000), which means mathematically at least two multiplicative factors are involved. Of course, how long is still left before the EC event occurs is also associated with the level of the anxiety, but the concept of “the difficulty of the task” or “the level of the challenge” has encompassed the urgency of the event.

Usually, the individual’s total degree of anxiety aroused by different ECs is steady during a period of time; we call it “heteronomous anxiety”, which means the anxiety induced by all the ECs, and use A_e to stand for it. Let us suppose k stands for the sequence numbers of ECs, and n stands for the total number of ECs which one encounters. That is $k = 1, 2, 3, \dots, n$. Then we have

$$A_e = A_1 + A_2 + A_3 + \dots + A_n = \sum_{k=1}^n A_k$$

At the same time, to some facets some people still have their own special ambitions beyond the demands of the ECs encountered. Under this circumstance, they may be suffering another kind of anxiety, which we name “autonomic anxiety” and use A_s to stand for, which

means the anxiety induced by SCs. Autonomic anxiety arises from the breaking of the rules that we established of our own accord before; it is some kind of mixture of anxiety and guilty. If we have done our best, even if the result is not so satisfying, A_s still approaches zero. But once we indulge in our desires and fail to keep to these rules strictly, temporary autonomic anxiety arises. The maximum of the A_s is associated with the strict degree to which one claims himself, depending on the individual. If someone keeps breaking his or her rules continuously in a short term, A_s may go on increasing with such accumulation. For the individual who has no extra self-discipline, A_s is usually very low or simply zero; only for people who cry for autonomy, A_s may reach a very high degree when they offend their rules extremely. Autonomic anxiety may be the most important motivation of self-discipline, and its maximum may determine the degree of the self-discipline one can reach.

Supposing A stands for the total degree of anxiety at a moment, we have $A = (A_e + A_s)$. Then, we have our whole mode of normal anxiety (see Fig. 1).

A_e reflects the restraints or the requirements which environments exert on the individual’s sustaining development; A_s reflects the individual’s deliberate plan on his future. Bandura’s point is that self-efficacy is always associated with the specific field involved, and so is anxiety’s arousal. But Higgins’ point is that the discrepancy between the actual self and the ought self is a steady character of person variables, external situation is not so essential to this discrepancy; and so should be the anxiety it arouses. It seemed to the paradoxical before, but now it becomes clear that the anxiety Bandura mentioned is a heteronomous anxiety, and that of Higgins’s is tendentially an autonomic one. A_e and A_s are two different kinds of anxiety, and everyone is suffering both at the same time. For most people, A_e is the main form of their anxiety; but for some

others, A_s is the dominating source of their anxiety. As morality has its development stages, anxiety may also have its own different development stages. And we think the only two development stages of anxiety are A_e and A_s , whereas in every stage either of them is the primary form of the individual's anxiety. Toynbee's criterion of growth concerns whether the compulsive heteronomousness has been turned into the voluntary self-discipline, so that the development of the individual's anxiety may be the conversion of the dominating source of anxiety from A_e to A_s .

Evidence for the Challenge-and-Response Model of Normal Anxiety

In this section, we will review evidence for the preceding hypothesis of the challenge-and-response model of normal anxiety. Although the previous literature relating to pathological anxiety does not contain studies that directly tested the model, there is some evidence of distinct relations between heteronomous anxiety and its two factors (i.e., the importance of the EC and the fall of the EC level and the SC level), which is relevant to, and generally supports, the proposed hypothesis. Since the anxiety involved in the following literatures is congruously heteronomous anxiety, we shall not be denoting autonomic anxiety with the word "anxiety", except when we do so explicitly.

The fall of the EC level and the SC level, as we have stated, is just the task difficulty one perceives and estimates, and the latter is just opposite to the degree of his confidence in accomplishing the task. So in our following discussion, the task difficulty one perceives or the degree of the individual's confidence in accomplishing the task will be used more in order to communicate efficiently.

When highly practiced and well-organized responses are interrupted, anxiety or discomfort occurs (Kessen and Mandler 1961). The research of Marquis suggests that the interruption of highly motivated, well-integrated behavior arouses emotional responses much similar to anxiety (Marquis 1943). According to our model, once we came up with a highly practiced and well-integrated response timing to a task, we actually have already had quite high confidence in coping with the task, and anxiety arousal is very low. But if the response timing is interrupted, the problem that has been considered settled before becomes a threat again. Then the difficulty the individual perceives increases, his confidence in accomplishing the task decreases, anxiety results.

The looming vulnerability model of anxiety posits that the distinct cognitive phenomenology of anxiety and anxiety disorders involves mental representations of dynamically intensifying danger and rapidly rising risk (Riskind 1997). Williams et al. (2005) who thought this

model of anxiety is consistent with Beck's theoretical formulation of anxiety, assert together that exaggerated appraisals of threat-related information result in fear and anxiety. These all indicate that a distinct relation exists between the augment of anxiety and the increases of the task difficulty one perceives.

Evidence suggests that two specific judgmental biases that may be central to the understanding of social phobia include overestimations of the probability and consequences of negative social events, and that the treatment-induced reductions in probability and cost estimates of negative social events are associated with the magnitude of improvement in anxiety symptomatology (Foa et al. 1996). Specifically, it has been shown that socially anxious individuals tend to overestimate the likelihood that negative outcomes will occur in social situations, and to exaggerate the costs or consequences associated with such negative outcomes, in comparison to non-anxious controls and individuals (Poulton and Andrews 1994, 1996). Recent evidence supports the results of previous studies indicating that social anxiety is associated with a tendency to attach high costs to negative social events (Wilson and Rapee 2005). Foa et al. (1996) also proposed that inflated cost estimations may be more important to the understanding of social phobia than overestimations of probability. Evidence in support of this notion has been obtained in both individuals with clinically diagnosed social phobia (Foa et al. 1996), as well as those in an unselected sample of undergraduates (Rapee 1997).

Probability bias refers to the phenomenon that high-anxious individuals estimate future negative events as far more likely to occur, and in particular to themselves, than low anxious individuals. This notion has been supported in an investigation with a sample of non-clinical children aged between 10 and 13 years, whose Results showed that children's anxiety and depression symptoms were positively associated with probability estimates of future negative events, but only when these events referred to children themselves (Muris and Heiden 2006). But in another study (Canterbury et al. 2004), Results showed that high-anxious youth estimated negative events as more likely to occur than low-anxious youth, and this probability bias effect was always present irrespective of the events referring to themselves or referring to other children. Thus, although these results were not exactly accordant, there was at least some support for the notion that high-anxious youth showed the tendency to estimate that future negative events are more likely to occur. That is to say, anxiety is associated with the overestimations of the probability of future negative events.

The overestimations of the consequences of negative events mean the overestimations of the importance of the EC. The overestimations of the probability of the future

negative events denote the lack of the individual's confidence in coping with the challenge, i.e., denote quite a significant fall of the EC level and the SC level. None of these studies does not emphasize the close relation between the two factors (i.e., the importance of the EC and the fall of the EC level and the SC level) and anxiety.

When studying the cognitive factors in test anxiety, Zheng et al. (2003) found that there is a distinct correlation between the degree of the test anxiety and the importance the student attaches to the test. More important one believes the test is, higher is his anxiety. And there is a striking negative correlation between the degree of the anxiety and the anticipation of the result. The more optimistic the anticipation (i.e., with more confidence), the lower the anxiety. In this investigation, the two factors in our model are emphasized again.

Taken together, all these results suggest the distinct relations between heteronomous anxiety and its two factors (i.e., the importance of the EC and the fall of the EC level and the SC level). Our challenge-and-response model of normal anxiety sounds reasonable. Moreover, the coping strategy of anxiety widely used in our daily life also confirms the model. There is such an idiom in Chinese: itchiness will decrease if louses are too many, worry will alleviate when debts are too much. It means when encountering too many challenges beyond our capacities, and anxiety arousals may be getting too high to bear, we will adopt a rather negative but effective coping strategy to release the pressure. The strategy is to persuade ourselves to believe that since we cannot deal with even one challenge, at any rate things cannot get worse. Through telling us "I have already had nothing else to lose", we succeed to decrease the relative importance of all the challenges, and then to restrict the total degree of anxiety within an undangerous limit.

Comparison with Related Model

In fact, the notions of the fall of the EC level and the SC level, the task difficulty, and the confidence in accomplishing a task all reflect a certain kind of control over the ECs. The relation between anxiety and need for control has been indicated in relative studies (Bowers 1968; Chorpita et al. 1998; Foa et al. 1992; Mineka and Kihlstrom 1978; Zvolensky et al. 2000), and there has been anxiety model of perceived control (Miceli et al. 2005). In the following, we will provide a comparison between our framework and these models first, then a comparison with Endler's multidimensional interaction model.

Pekrun's expectancy-value theory of anxiety (as cited in Miceli and Castelfranchi 2005) hypothesized that both threat probability and the importance or value of the

threatened goal are crucial in anxiety, and that their multiplicative combination is predictive of the level of anxiety experienced. If the fall of the EC level and the SC level is expressed as threat probability, our model on heteronomous anxiety closely resembles the expectancy-value theory of anxiety. Although the fall of the EC level and the SC level can be measured in the form of threat probability, their contents are different. Once the former is simplified and equated with threat probability, SC will be excluded from the notion of anxiety. And at the same time, aggressively seeking personal growth is also excluded by default from the anxiety coping strategies, and the only remaining alternative is to survive with desperation one threat after another. But it is just this passive strategy that causes and keeps the most common form of anxiety. (We will revert to this aspect in the next section.) So the fall of the EC level and the SC level contains more than threat probability and cannot be equated with it simply. In addition, Autonomic anxiety is not mentioned in the expectancy-value theory. Of course, the similarity between the expectancy-value theory of anxiety and our framework still indicates that they validate each other in some sense.

Miceli and Castelfranchi (2005) provide a conceptual framework placing anxiety in a perceived control perspective. According to this uncertainty theory of anxiety, both pragmatic control and epistemic control are basic cognitive components of anxiety with reference to the need for control. The need for pragmatic control is the need to believe that one has power over reality, and pragmatic control means being able to respond to the imminent threat in a way that reduces or terminates it, so as to shape reality according to one's own ends. The need for epistemic control is "a need to know with the highest degree of certainty how things are and, as far as the future is concerned, how things will be" (p. 296), and epistemic control over a threat "means being able to predict its occurrence and consequences, as well as whether one will be able to cope with it" (p. 296). Simply speaking, pragmatic control and epistemic control are precisely corresponding to the two components of Bandura's (1982) concept of self-efficacy, and controllability, and predictability respectively.

Although Miceli and Castelfranchi (2005) tried to fix a clear boundary between pragmatic control and epistemic control, it is still difficult to understand and accept it. According to the premise that anxiety should be studied as a certain kind of relation or interaction between the subject and his stimuli, there will be no place for pragmatic control in the notion of anxiety. Even pragmatic control exists, before exerting its influence on the degree of anxiety, it has to come to an agreement with epistemic control first. In addition, controllability and predictability still overlap to a great extent when it comes to anxiety. Zvolensky et al. (2000) stated that control most often implies prediction,

and prediction does not necessarily imply control. But Miceli and Castelfranchi (2005) proposed that the attempt to reduce anxiety through the reduction of predictive uncertainty may go in the direction of negative certainty, and the conflict between predictability and controllability is solved at the expense of the latter. Predictability and controllability are two dynamic processes and keep interacting with each other at any point of time. Consequently, we will find it is difficult to make a clear distinction between them whenever facing a challenge. Therefore, to make the distinction constrainedly between pragmatic control and epistemic control, or between controllability and predictability may complicate the issue instead of simplifying it. The meaning of the inseparable twosome is expressed as the fall of the EC level and the SC level in our model, which looks reasonable.

Comparison with Endler's Multidimensional Interaction Model of Anxiety

In Endler's multidimensional interaction model (Endler 1997), trait anxiety is associated with four situational domains: social evaluation, physical danger, and ambiguous and daily routines. It is necessary for the threatening situation to be congruent with the facet of trait anxiety being investigated. There will be no increase in state anxiety when the facet of trait anxiety and the situational stressors are not congruent. Comparing with our model, the threatening situation influences the level of the EC one perceives, the corresponding facet of trait anxiety reflects the importance of the EC and the level of the SC. It is just because one of the facets is very important to the person, in addition to his low level of SC in this fact, that a certain facet of vulnerable anxiety trait comes into being. The factors of our model, i.e., the importance of the EC and the fall of the EC level and the SC level, exert themselves in all the facets of trait anxiety Endler defined, and in the facets he have not touched. The differentiation of only four facets of trait anxiety is far away enough for the infinite facets that may be threatening in real life, so Endler committed himself to expand more (Endler and Kocovski 2001). But endeavor as this is not so essential to understand anxiety further, as we have emphasized earlier; what is really important is to detect those general factors that hide in every facet. Of course, from our standpoints, the more general factors are just the importance of the EC and the fall of the EC level and the SC level, which can be used to explain how trait anxiety comes into being.

Very exquisitely, Endler found the necessary congruity that the interaction between person variables and situation variables demands, his model was based on both the

multidimensionality of anxiety and on interactions. But when he went on to expand more facets of anxiety trait, he focused on person variables too much so that he neglected another end of the interaction unconsciously. Trait anxiety only accounts for the function of person variables, situation variables should also be attached with the same importance. As many other variables in psychology, not only does anxiety in essence exist as a relation between personality and environment, but also it can never be understood fully unless in this relation. In our model, the fall of the EC level and the SC level is the content of the interaction between the individual and his stimuli (i.e., the content of anxiety), the importance of the EC represents the intensity of the interaction, and both of them are the bridges of person variables and environment variables. At this point, we have presented our challenge-and-response model in the two frameworks we mentioned and preferred before.

The Application

The most important significance of a framework of anxiety is the coping strategy it offers. A valid coping strategy of anxiety can be drawn from the challenge-and-response model of normal anxiety. In most circumstances, heteronomous anxiety is the main form of our anxiety. A person in real life must be challenged from all kinds of facets, since no one can be a superman in all the facets, if he attaches high importance to many of them, he will be suffering high cumulate anxiety.

According to the formulation $A_k = I_k \cdot F_k$, if we want to keep a low level of anxiety in one facet, at least one of the two factors must be very small. Then there is only one way to get a totally low level of anxiety. To all the facets that may be challenging in life, such as career, emotion, health, wealth, interpersonal relationships, fame, status, might, only when we attach high importance to a very few of them and put the remainder aside, at the same time we also need to devote ourselves to the facets we select so that we have sufficient confidence to cope with any challenge in the fields, can a low level of anxiety be assured. That is to create such a situation: to few facets tremendously important to us (i.e., when I_k s are great), we shall upgrade our SCs far beyond any potential challenges we may encounter in the foreseeable future, so that the fall of the EC level and the SC level will be very trivial; to the remaining dispensable facets, even we do not have confidence to cope with the corresponding problems (i.e., when F_k s are great), but at the same time we do not have any necessity at all to face them, we can let them alone as we like, so I_k s are trivial. Why could Einstein take strangers' surprises and sneers for nothing when he walked in street

often with old and weird clothes, with his distinctive mane tousled for seldom bothering with haircuts, without necktie, girdle, and socks? What is it that was to endow Mrs. Curie with the capacity to ignore the bad life she endured, to sing praise for her poverty? Evidently, they believed these facets we haggle over every ounce counted for little, and then did not feel any threat from challenges in these fields. On the contrary, we believe undertaking, emotion, health, wealth, fame, status, might and interpersonal relationships are all necessary, thus many challenges which Einstein and Mrs. Curie waved aside often make us feel threatened day and night. The more the facets one attach high importance to, the more the possibilities he/she will be threatened, and the more the chances to suffer high anxiety. Only when he/she has very high level of SCs on the facets he/she selects, and simultaneously has abandoned the pursuits in other fields, may he/she get serenity.

From the challenge-and-response model of normal anxiety, we can still find a popular coping strategy of anxiety is wrong. Not only it is not used to avoid extra anxiety efficiently, but also it antithetically can bring more anxiety to us. We usually think that in order to avoid employing too much stresses for ourselves and be free of the corresponding unendurable anxiety, if possible, we should not require too much on ourselves, but should pursue those relatively effortless goals. But things often go contrary to our wishes in doing so. When we require ourselves little and the levels of self challenges are very low, we can assuredly enjoy a light-hearted life if there will be no external challenges to trouble us. But intense competitions are omnipresent, usually all kinds of challenges visit us one after another. The poor skills and low self-efficacy resulting from the low levels of SC must be far away from meeting the requirements of the ECs in most circumstances, with the result we have to feel uncontrollable and threatened always. On the contrary, with relatively high levels of SCs, the individual will not be anxious since the ECs he or she encountered are only some substeps of his original and confident goals. So, to avoid unwanted anxiety, the right way is never to indulge in our idleness and laziness but to try our best to improve the levels of SCs as possible as we can. But most of the people today are muddling through their lives, not for a moment have they ever realized that they should try to improve themselves more than just enjoy themselves. Without the ability to resist all kinds of temptations, at the same time with very low the levels of SCs are very low, almost all ECs can make them undergo a certain degree of anxiety, so it is no surprise that they have been suffering from high anxiety all along.

Because the coping strategy of anxiety based on our model needs a high level of self-discipline and a strong desire for self-actualization, it looks easy and available to everyone, but very difficult practically, most people cannot

succeed to apply it. The strategy, in essence, is a method to convert the form of anxiety from heteronomous anxiety to autonomic anxiety. Even if someone followed this strategy fastidiously, it just means that heteronomous anxiety could be controlled to a lower level; it does not mean that he/she has been free of anxiety thoroughly. Autonomic anxiety still exists, furthermore, its potentiality will be enhanced dramatically by this strategy. In order to follow this strategy, very high level of SC is necessary in a certain facet, and then a corresponding high level of self-discipline is necessary too. The higher level the self-discipline reaches, once breaking its rules, the higher level of autonomic anxiety will result. Of course, autonomic anxiety is short-term; once the individual adjusts himself and returns to his normal orbit, its level also can decrease rapidly, even close to zero. Then, with the development of the dominating form from heteronomous anxiety to autonomic anxiety, it is very likely that the summation of the two, i.e., the total level of a person's anxiety will decrease, accompanied by an increase in the ratio of the autonomic anxiety to the total anxiety.

If accurate, the challenge-and-response model of normal anxiety will serve to further the understanding of the current metaphysics of anxiety.

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