Dual Parallel Process in Crisis Situations: Motivational Foundation

El Doble Procesamiento Paralelo en Situación de Crisis: Fundamentación Motivacional

O Dobro Processamento Paralelo em Situação de Crise: Fundamentação Motivacional

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Abstract

The objective of this paper is to present a cognitive-behavioral model that makes it possible to explain the crisis situation (CS) in terms of intense motivational involvement, and to propose a brief motivational intervention proposal in CS. The CS requires the person to implement coping strategies focused on the management of objective damage, as well as on the search for emotional relief, a consideration that gives rise to the name of *dual parallel processing in CS* (DPP-CS). Brief intervention is understood as the involvement of motivational processes to enable the person to make decisions regarding emotional and instrumental coping which move her in the direction of emotional relief or solution of the crisis. The paper concludes with a summary of the three basic sources taken from the psychological literature to inform the design of the DPP-CS: the dual extended parallel process model, the cognitive theory of stress and coping, and the formulation by levels in cognitive therapy.

Keywords: crisis, motivation, cognitive therapy, brief intervention, coping.

Resumen

El objetivo de este artículo es presentar un modelo cognitivo-conductual que permite explicar la situación de crisis (SC) en términos de intensa afectación motivacional y sustentar, a partir de ahí, una propuesta de intervención motivacional breve en SC. La SC exige a la persona implementar estrategias de afrontamiento centradas en el manejo del daño objetivo, así como en la búsqueda del alivio emocional, consideración que da origen a la denominación *doble procesamiento paralelo en SC* (DPP-SC). La intervención breve afecta los procesos motivacionales, para facilitar que la persona adopte decisiones de afrontamiento que la coloquen en dirección al alivio emocional o a la solución de la crisis. Se concluye con una síntesis sobre las tres fuentes fundamentales procedentes de la literatura psicológica, para inspirar el diseño del DPP-SC: el doble procesamiento paralelo extendido, la teoría cognitiva sobre el estrés y el afrontamiento, y la formulación por niveles en terapia cognitiva.

Palabras clave: crisis, motivación, terapia cognitiva, intervención breve, afrontamiento.

Resumo

O objetivo deste artigo é apresentar um modelo cognitivo-comportamental que permita explicar a situação de crise (SC) em termos de intensa afetação motivacional e sustentar, a partir disso, uma proposta de intervenção motivacional breve em SC. A SC exige, da pessoa, implementar estratégias de afrontamento centradas no manejo do dano objetivo, assim como na busca do alívio emocional, consideração que dá origem à denominação *dobro processamento paralelo em SC* (DPP-SC). A intervenção breve afeta os processos motivacionais para facilitar que a pessoa adote decisões de afrontamento que a coloquem em direção ao alívio emocional ou à solução da crise. Conclui-se com uma síntese sobre as três fontes fundamentais procedentes da literatura psicológica para inspirar o desenho do DPP-SC: o dobro processamento paralelo estendido, a teoria cognitiva sobre o estresse e o afrontamento, e a formulação por níveis em terapia cognitiva.

Palavras-chave: crise, motivação, terapia cognitiva, intervenção breve, afrontamento.

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THE AIM of this paper is to characterize a crisis situation (CS) as a psychobiological state of a person in which motivational alteration is prominent due to the impact of a deep alteration of an emotional sort originated in some external event of a harmful nature. We do not argue this to be the only relevant characteristic of such a state, but we do emphasize it with the goal of projecting, based on this concept, the characterization of brief motivational intervention (BMI) in crisis situations.

In order to characterize CS, the label of *dual parallel processing in crisis situation* will be used. This concept has been used in the psychological literature particularly to refer to the parallel action of emotional and instrumental coping processes in a harmful situation, which determine the simultaneous presence of a pain-control process and a harm-control process. These are not, however, the only two dual processes parallelly occurring in a CS; from other viewpoints, other simultaneous processes coexist as well which, together with the tradition of the concept in the literature, contribute to the justification of the name assigned to the proposed conceptual model. Such processes include: (a) the dual cognitive appraisal (the evaluation of suffered harm, and the evaluation of coping alternatives); (b) the simultaneous presence of fear and anxiety, which motivates escape and avoidance behaviors; (c) the relations between personal incertitude and situational ambiguity; and (d) the simultaneous occurrence of processes of assimilation of the situation and accommodation to it, which finally lead to the attainment of new equilibriums, signaling new states of personal readaptation in CS.

The Psychobiological Nature of Crisis Situations

Crisis Situations

A CS is a state of great psychobiological alteration, of varying duration and stages, subsequent to the reception of a signal announcing the event of a significant loss and the danger of a deepening of the harm that has occurred. The psychological alteration in a CS is manifested as a series of profound changes of an emotional and motivational kind with significant repercussions on the person's behavior (Salazar, Caballo, & González, 2007); the biological alteration is manifested as autonomic arousal of a nervous, endocrine, and immune kind (Dattilio & Freeman, 2007), with repercussions on the health status.

The type of CS that is addressed in this paper is defined by the presence of some harmful event that the person perceives as highly damaging or as threatening to produce a lot of damage, signals that something really serious has occurred and that something else might happen in an imminent way. These are crises that have been called *circumstantial* (Slaikeu, 1990), examples of which include the receipt of bad news (e.g., a disease diagnosis), the imminence of a significant economic loss, the death of a loved one, the occurrence of a natural disaster, or the presence of some event that the person perceives as a signal of the loss of something highly valued (as when the child interprets her first day at school as a sign of the mother's abandonment and a sign of the risk of aggression in what is an unfamiliar environment for her). Circumstantial crises are severe situations that, generally, are unique in personal life, which is why there is small or no individual experience of coping, which increases the likelihood that they would occur as challenges that exceed in an overwhelming way the potential ability of the person to avoid or assimilate harm (Freeman & Dattilio, 2007).

As a psychological alteration state, a CS entails important changes in psychological processes which influence the person to act in a relatively erratic manner, by means of trial and error responses that can get her closer or farther away from adaptation to the situation. Among these changes, we emphasize the following:

1. Intense emotional impact of a displeasing type, characterized by the presence of psychological pain that leads naturally to situational avoidance or escape (Gantiva, Guerra, & Vila, 2011). This emotional state can imply fear, anxiety, angst, sadness, or anger as well, but it can also imply adaptive challenging.

2. Confusion regarding the severity of the harm related to the event, with a predominance of representations of severe harm and a magnification of personal vulnerability to potential negative consequences that might occur, or even with a magnification of personal vulnerability to new harmful events different from the one currently experienced (Clark & Beck, 2009).

3. Confusion in understanding the causes that led to the event generating the CS. Lack of clarity regarding the causes often leads the person to make distorted attributions of self-blaming or blaming to others, with the resulting deepening of feelings of sadness and anger, and the alteration of social relationships.

4. Emphasis on attention to signals related to the event or to the harm, with the emission of conditioned responses to such signals (Lovibond, 2006; Mineka & Sutton, 2006). Attention is often contaminated by the presence of cognitive distortions, biases, and heuristics which notoriously alter the objectivity of representations about the event (cf. Tversky & Kahneman, 1974). Conditioned responses are often of a negative emotional kind and involve instrumental responses of avoidance and escape.

5. Significant changes of a negative sort in the value that the person grants to events occurring in other areas of her vital field different from the area of the CS generating event. This implies a notorious loss of motivation to act in other areas (Bradley & Lang, 2007), with an increase in the likelihood of adding new losses to the one already experienced, such that there is an involvement in a vicious circle of *self-fulfilled prophecies* of a catastrophic sort. This change can be conceptualized as an important restructuring of the frame of physiological, psychological, and social needs that motivate a person's actions, and it is an essential element to differentiate a CS from other situations of severe stress that do not represent a crisis as properly defined. Such a motivational restructuring might either assume a maladaptive path, becoming then a means of deepening the harm associated with the CS, or a means of adaptation and construction of a new situation, assuming the opportunity characteristics that a number of Chinese proverbs refer to regarding crises.

6. Confusion regarding the interpretation of support signals coming from the social environment, which leads the person to ignore support chances offered by the environment for adaptation to the situation.

7. Confusion in the decision-making process for coping with the CS generating event, as a natural consequence of the above mentioned alterations.

8. At an extreme at which emotional pain (absence of relief) and lack of clarity regarding the possibilities to cope with harm are predominant, a CS can lead the person along a path of extreme autonomic arousal where decisions can deliberately assume a path of self-destruction, further leading in both cases to an emergency situation within the CS, or in a more general way, the person's situation can negatively evolve assuming characteristics proper of an anxiety disorder or an affective disorder (Barlow, 2002).

The conceptual psychological model of a motivational type here proposed to account for this psychological characterization of crises, from which further considerations for intervention will be abstracted, has been called dual parallel processing in crisis situations (DPP-CS). This model is proposed here as an explanatory psychological alternative to what occurs during a CS. It has its origins in the research about the course followed by the processing of any emotion (Martínez-Sánchez, Fernández-Abascal, & Palmero, 2002), but, more specifically, in the

research about the impact of the induction of a fearful emotional state on the motivation of the person to modify her behavior, as well as in the research about the use of messages suggesting healthy action alternatives to the person, encouraging her to act from the fear or threat generated by the damages produced by risky behavior habits, with the goal of fostering healthy lifestyles.

These arguments have been the subject of a large number of experimental analyses and currently represent micro-theories with large research support, such as the dual process theory (Janis & Feshbach, 1953; Leventhal, 1971), the protection motivation theory (Rogers, 1975), and the dual extended parallel process theory (Witte, 1992). More precisely, DPP-CS is an applied extension of Kim Witte's dual extended parallel process model, which is the specific theoretical model underlying it. In this sense, in order to apply the dual extended parallel process model (Witte, 1992, 1998; Witte & Allen, 2000) to the understanding, explanation, and modification of a CS, a variety of factors highlighted by that theory need to be taken into account, in a process approach that goes from the onset to the solution of the crisis, such as will be analyzed next. These factors are represented in a schematic way in Figure 1.

Onset of the Crisis Situation

The CS is initiated with the presence of a set of objective triggering stimuli. In the perception of these stimuli different factors are important: (a) the aspects of harm or threat to the person, with considerations about harm severity and personal vulnerability to its deepening; (b) the coping challenge that such stimuli pose to the person, with considerations about the availability of efficient alternatives of action to cope with the situation, and trust in her own personal ability to implement the action courses that these alternatives imply. These two aspects of perception comprise the core of primary and secondary cognitive appraisals (Clark & Beck, 2009).

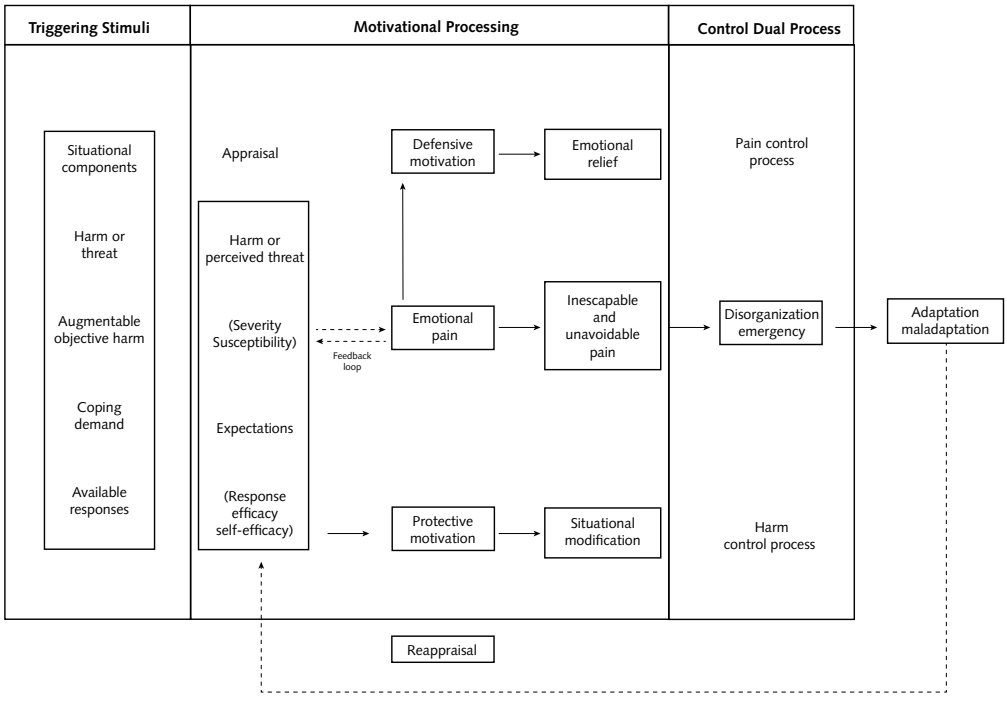

Figure 1. The dual parallel process in crisis situations (DPP-CS) model.

Functionally, triggering stimuli in the CS work in a similar way to messages suggesting the imminence of very severe damage (Lang, Bradley, & Cuthbert, 1997); this conscious perception is a necessary condition for the formation of an emotional state leading to crisis. Differently to what happens with a warning message representing a threat and generating a basic emotion of fear or anxiety, in a CS the reality of harm is not a hypothetical event that might occur in the future unless the person adopts an avoidance behavior, but a harmful, objective, very aversive event that is currently occurring and can become more profound in the immediate future, producing a quite complex emotional state of a negative sort. Functionally, objective harm and aversion inherent to the set of CS triggering stimuli act in the manner of a punishment, which facilitates the person's eventually interpreting them as such, and her engaging in speculations about which behaviors (her own and those of others) have produced the supposed punishment, with the subsequent emotional consequences of self-blaming or blaming others.

This interpretation of punishment is highly likely, but it may or may not occur during a CS; if it does occur, this interpretation becomes an evaluative element additional to the complex of triggering stimuli which determine the onset and evolution of the situation. What *is* inevitable is the interpretation of severe harm, a primary appraisal cognitive process, with the resulting emotional consequence of pain caused by the occurred harm, a pain that stimulates escape behaviors, and the interpretation of the threat of harm worsening, which stimulates avoidance behaviors. In other theoretical contexts originated in the dual processing model, such as the protection motivation theory (Rogers, 1975), this primary appraisal is called *threat appraisal*, and is operationalized in terms of the perception of severity and of the perception of susceptibility a person has about real or potential damages.

The occurrence of the crisis-triggering event is not merely a stimulus informing about harm by means of a primary appraisal process; it is also a stimulus for coping responses to harm. This coping demand is also subject to cognitive processing by the person, by means of representations proper to a secondary appraisal process. The fact of being exposed to an aversive event, generally denoting important loss, occurring in some vital area of great personal value, naturally urges the person to act to escape harm and avoid its worsening (Bradley, 2009); the course of action an individual adopts will depend on the margin of harm reversibility (in many occasions, actually irreversible), on the responses repertory a person has available, and on the established relation between those responses and the CS, particularly the ability the person attributes to the responses to modify the situation, and the self-attributed ability to get involved in the performance of the response. In the theoretical frame of protection motivation (Rogers, 1975), this secondary appraisal process is called coping appraisal.

Four different aspects in the analysis of secondary appraisal need to be differentiated, which have been the subject of study within cognitive theories of expectancy-value and social learning:

1. Personal beliefs that situations can be modified as a result of personal actions or that, on the contrary, they are subject to determination by external forces escaping the control exerted by oneself; this factor is what Rotter (1966, 1982), calls *locus of control*. As can be anticipated, people tend to be more active and exert more control initiatives in situations in which they consider the outcomes to be determined by their own actions, than when they perceive them as unchangeable in a fatalistic manner (e.g., the strength of fate), which leads to apathy.

2. Valence or valuation (Lang, 1995; Lewin, 1976), the importance a person attributes to a determined element or outcome. In a CS, by

definition, the event occurs in vital areas highly valued by the person (e.g., finances, health, work, family, etc.), which is why there is a high desirability in obtaining a determined outcome favoring the solution of the crisis. In a parallel manner, valences can be modified in other areas, which affects the general motivation of a person (e.g., a marital crisis can make the person underestimate success in other fields, such as the professional one, and to overestimate everything that could lead to the solution of the marital crisis).

3. Response efficacy, what Bandura (1997) would call outcome expectation properly, and that consists in the person's belief about the ability of an action to produce a particular outcome (in this case, a favorable one to the solution of the crisis). These are expectations about the instrumental potency a behavior has as an efficient means to lead to a particular outcome.

In motivational terms, Flórez (2007) proposed a distinction between reinforcement expectations and outcome expectations; the former refer to the immediate consequences of an action, which might become conditions leading to the attainment of the final outcome, but are not the expected final outcome itself. That is, reinforcement expectations refer, in motivational terms, to wanted consequences (goals that approximate the final expected outcome), but not to the consummatory outcomes that are expected (superordinate goals). An example can help clarify this distinction: For a student, the fact of passing an exam can be the expected consequence that maintains her study behavior; but this conduct is not maintained only by that wanted consequence of passing exams (reinforcement expectancy) but by other long-term expectations, such as being a competent professional (outcome expectation or consummatory consequence of the studying behavior). In the natural sequencing of relatively simple behaviors that are chained to form complex actions, the consequences of complex actions (being competent as a professional) are long-term outcomes of the other consequences (having studied for satisfactory passing of the courses). This distinction, of course, acquires importance as long as there is objectivity and certitude in the relation established between reinforcement expectations and outcome expectations, in which case immediate reinforcement is a real incentive leading to the outcome in the medium or long term.

This distinction between reinforcement expectations and outcome expectations acquires additional importance in a CS, in that a critical happening significantly alters the valence of a particular outcome, which in turn alters the significance a person will attribute to the relations between reinforcement and outcome. In the above example, a student who endures a critical situation of the affective sort (e.g., a relationship break-up) might be completely certain that studying helps her to cope with an immediate appraisal situation (e.g., an exam), but quits studying completely, regardless of the immediate consequence of the exam, as she starts to underestimate the importance of passing it since this fact has no influence at all on the solution of the critical situation she is going through (e.g., she might say to herself "what difference does it make to pass or fail an exam, if he's leaving me anyway?"). There is, of course, a logical error underlying such self-statement related to the relations she is establishing between the premise (reinforcement expectation) and the conclusion (outcome expectation), an error that might be a due to a specific cognitive distortion, or to the use of some particular bias or heuristic (Clark & Beck, 2009).

4. Self-efficacy (Bandura, 1977, 1997), the person's belief about her ability to get involved in the performance of a determined action in a specific situation. Self-efficacy is the substantial motivational complement of response efficacy, as it is the expectation with the ability to empower the person towards the performance of an action she judges will be able to transform, in this case, a CS. If self-efficacy fails, the person will be

demoralized and it is highly unlikely she would be engaged in action, despite considering it an action able to transform the current situation. The highest levels of active involvement, leading the person to commit to and initiate the implementation of positive actions, can be expected in those cases on which high expectations of response efficacy and self-efficacy exist; on the contrary, the lowest levels of activity, with a predominant role of passive resignation and apathy, can be expected when there are low efficacy and self-efficacy expectations (Bandura, 1997).

An issue to which there is seemingly no final answer is that related to the temporal relations between efficacy expectations and self-efficacy expectations as factors determining whether the person would get involved in a particular behavior. Bandura (2001) argues for the preeminence of self-efficacy expectations in the control that the person exerts over her own actions, and for this reason these are the expectations that, in his view, prevail as determining factors of the agency a person exerts on her activity in general. Nevertheless, this preeminence of the self-efficacy expectation is questionable, particularly in the case of behaviors approximating a superordinate goal in which a logical coherence between reinforcement expectation and outcome expectation must be anticipated. Witte (1992), in her proposal of dual extended parallel process model, argues that response efficacy (outcome expectation) is the preeminent factor determining that a coping action will assume the course of the control process for objective harm and will not stay only at the level of emotional control action, which is a course of defensive motivation characteristic of the control process of subjective fear.

In the present proposal of DPP-CS we adhere to Witte's view, as will be analyzed later, because this proposal solves some logical and methodological problems that have been stated by previous versions about dual processing and its motivational impact. Certainly, efficacy expectations, both of response and of the person's own ability, play a central role in the maintenance of the motivational process leading the person to initiate and stay committed to the implementation of a particular course of action, in this case a course of action that might lead to the solution of the crisis, whether by way of emotional coping, of instrumental coping, or of both, as suggested in the following proposal.

In addition, the very interpretation the person makes regarding the reaction of emotional pain produced by the harmful event triggering the crisis, as well as the interpretation about its management, might generate diverging evolutionary courses of the CS, such as emergency states, anxiety disorders, and/or affective disorders. This occurs when transforming the objective perception of the pain generated by the damage —which allows for options of personal management with or without therapeutic support—, changing it into a subjective perception of intense suffering. This emotional reaction in the face of which the individual cannot contemplate efficient options of personal management, requires the implementation of priority attention, or special emergency intervention, occasionally called *crisis intervention*, but which is in reality an urgency intervention to the aggravation of the crisis caused by the emotional reaction of intense suffering, which the person interprets as an inescapable and unavoidable event. Crisis intervention, even if brief, is broader and more lasting, encompassing all the time and factors inherent to the crisis (Slaikeu, 1990), whereas emergency intervention is more restricted in time and covers only some selective aspects of the crisis, such as the consequences of acute biological harm, or the behavioral consequences expressed in acts of aggression to others or self-aggression, as in suicide. Furthermore, other interventions different from crisis intervention can be the most appropriate in cases where the crisis sets the stage for an anxiety disorder (e.g., post-traumatic stress disorder) or an affective disorder (e.g., depression).

Cognitive Appraisal during the Crisis Situation Understood as Severe Stress

A CS has all of the characteristics of a state of severe stress, although not every stress state can be considered a crisis. In the conceptualization of crisis on the basis of the dual parallel process model, focused on the control of harm and the control of the emotional state, two aspects are particularly important regarding considerations about stress: cognitive appraisal and biological impact. These two aspects are especially important because of their implications about the elements that should be emphasized when implementing an intervention in CS.

Regarding the role of cognitive appraisal, the viewpoint that we adhere to in the proposal of DPP-CS is that of Lazarus and Folkman (1984a, 1984b), related to the functions of cognitive appraisal in the stress response. Lazarus and Folkman's cognitive approach conceptualizes stress as an interaction between external stimuli and the person's interpretation of them, which partially explains why reactions to one stimulus can vary a lot. Personal interpretation of a situation triggering a crisis can be understood in the frame of the evaluations these authors consider as stressful, such as appraisals of harm or loss, threat, and challenge.

A CS demands coping, which is why the person is faced with the need to find alternatives of action; this quest for alternatives is pressing, particularly when the interpretation of threat brings about anxiety, or the interpretation of challenge generates a challenge perception, stimulating in both cases the search for avoidance responses that prevent the worsening of harm or the influx of new harms additional to the one already experienced by the person. In this search, as stated before, the appraisal of the efficacy of available response alternatives (outcome expectation) and that of the self-ability to perform them in a satisfactory way (self-efficacy expectation) are predominant. These two types of appraisal constitute, according to Lazarus and Folkman, the essence of secondary appraisal in stress situations.

Some factors, both personal and situational, influence the determination of the development of primary and secondary appraisal, and also of reappraisal; among the personal factors, Lazarus and Folkman (1984b) have proposed commitment and beliefs; among situational factors, novelty, predictability, and event incertitude, as well as temporal factors, are particularly important. An additional aspect is that related to the chronology of the events. These aspects contribute to modifying the dynamics of the relation between personal incertitude and situation ambiguity, significantly affecting the significance a person attributes to the critical event, and the course that coping with it will take, thus demanding a special analysis when implementing an intervention in a CS (Lazarus & Lazarus, 1994). These authors characterize such factors in the following terms:

1. *Commitment*. In a CS, by definition, there is great personal commitment to what is at stake; this commitment is expressed in the high rank of importance that what is at stake has for the individual as a core theme of the crisis (e.g., a sentimental relationship, finances, the life of a loved one, or one's own, etc.), which configures a favorable context for the occurrence of appraisals attributing high severity and vulnerability to loss or harm and lead to an extraordinary sensitization, which makes the person pay excessive attention to any signal related to the crisis, interpreting it in quite different ways which can beget very diverse emotional states. Commitment determines the high motivational relevance (Martínez-Sánchez et al., 2002) and subsequent responsibility a person assumes in a CS. A favorable consequence of this high extent of commitment and responsibility is that it also leads the person to actively reduce the threat and to maintain the effort during coping, a central, motivational aspect favoring the impact of an intervention, regardless of how brief it is.

2. *Beliefs*. These are ideas or conceptual schemata a person uses to interpret reality. The

world, in this case the CS, is what a person perceives about it, and to what extent it affects her. These are very diverse beliefs, some very general, which can encompass all aspects of a person's life, and others more specific and restricted to those aspects related to the CS. Both types are learned throughout the course of life, and in their formation the personal experience in the particular socio-cultural environment where the person has grown up plays a very important role.

Attributional cognitive theory (Weiner, 1985) differentiates between appraisals of control attributed to external causes or to internal causes, which combine with appraisals about the modifiability of such causes (i.e., modifiable versus non-modifiable). Attributions to modifiable causes, depending on the easiness or difficulty attributed to the control of such causes, generate a higher propensity to adopting an initiative on the management of the situation. An increasingly influential current approach in psychology, emphasizing the importance of fostering general beliefs favorable to personal growth, is that of *positive psychology* (Seligman, Steen, Park, & Peterson, 2005). In general, cognitive theories of personality underscore the role of global systems of individual belief as a determinant factor of the consistencies occurring in the way an individual is behaving in very diverse aspects of her life; these belief systems have been called cognitive-affective processing systems (CAPS; Mischel & Shoda, 1995).

Other general beliefs, not referring to psychological aspects but rather to ideological aspects, are existential beliefs, such as religious beliefs; in a CS, these existential beliefs acquire a very clear function of emotional and motivational determination, by suggesting explanatory alternatives about the meaning of the experienced event, and about the meaning a person can attribute to coping with it (e.g., accepting the situation as sign of divine will). The role of beliefs of all kind, particularly that of existential beliefs, is more evident and ostensible when indicating to the individual what is acceptable in the search for adaptation in those cases where high-impact, acute changes in life are imminent, a characteristic fact in any CS.

Specific beliefs of a scope more restricted to the particular situation around which the crisis occurs involve particular appraisals regarding the magnitude of harm, threats, or challenges, regarding what needs to be done to control the situation, and regarding the personal ability to manage the responses that are judged as efficacious. These beliefs were mentioned before as related to outcome expectations and self-efficacy expectations. A cognitive aspect of particular relevance in this case is that referred to incertitude or clarity about those two expectations permanently interacting to determine the subsequent motivational course that the coping process will take, whether in the direction of control of the subjective emotion, or control of the objective harm. What specific harm should be controlled in the crisis generated by the death of a loved one? What is the threat of additional harm that might occur? What can be done in such a situation? Is what can be done acceptable? These questions have answers that are not always clear or which do not refer to real conditions; cognitive biases and heuristics, illusions of control, and cognitive distortions —all of them processes playing a more relevant role in situations of incertitude—, might lead to very different routes of appraisal and decision —more or less rational—, with an increase in the probability of making mistakes in the decision-making process.

3. *Novelty, predictability, and temporal incertitude*. These are situational characteristics that mediate the degree of threat a situation represents to the person, regarding the interpretations she might make. Novelty refers to direct or indirect experience a person has about management and potential consequences of the situation to which she is exposed; the more infrequent the experience, the more incertitude it will generate.

Predictability refers to the presence of stimuli that signal to the person what the probability of occurrence of aversive events to which she is exposed is (Mineka & Sutton, 2006). This requires pinpointing what these events are, as general ideas about the critical event do not necessarily express the specific conditions of that event that are acting to bring about the emotional response.

For example, a big economic loss might result in something too painful, signaling a CS, but it is also too general in itself to account for concrete threats, such as worries about daily expenses, payments of debts, or saving a valuable item at risk of being lost, three different aspects occurring simultaneously in the situation configuring the crisis. If it is about the anxiety generated by the threat of losing a valuable item in the case of failure to pay a debt, the proximity of foreclosure or the presence of the collector would be the event signaling the probability of experiencing the concrete harmful situation, and leads to predict more exactly a possibility of efficacious coping with its consequences. It is at this moment that an avoidance response (e.g., obtaining a deferral) might alleviate the feeling of distress generated by the threat; this episode of control of one of the specific threats might, in turn, become an element favoring some relief to the more general situation of pain generated by economic loss. In the particular situation of this illustration, clear external signals would be available to facilitate the process of analysis and decision-making, although the process would be blocked if the person failed to discriminate those singularities in the broader general context of the pain produced by the economic loss that originated the crisis.

In another example, the death of a loved one, although it is too concrete and painful a fact in and of itself as to question its harming capability, it would demand more specificity at the moment of establishing the characteristics and more proximal causes of the distress as well as of the control responses, such as feelings of asphyxia when waking up, physical sensations in the chest, or feelings of hopelessness produced when remembering the deceased person and becoming conscious of his or her definitive passing away. In this case, the clarity that aversive feelings are contingent to waking up or to the aforementioned thoughts, determines that these two stimuli can become a warning signaling a possible action to be performed to prevent the onset of the experienced distress. In this case, both the nature of distress and that of the possible warning stimuli are more difficult to establish than in the case of what happens in the example of economic loss, as in this case we are dealing with internal events such as thoughts, waking up, physical sensations, and feelings.

As can be noticed in the examples provided, the CS by itself is a context in which a more molecular analysis is required in order to identify the singular properties of distress sensations and feelings, of their triggering stimuli, and of the anticipated consequences of control. This is the process that determines the cognitive essence and the importance of feedback loops between appraisal and the emotional pain response (see Figure 1), which provide the person with the elements of required information that will enable her to adopt some coping strategy following a course of control of pain, control of harm, or both, and to develop future expectations of adaptation. These elements of information constitute the essence of the motivational congruence (Martínez-Sánchez et al., 2002) that can increase within a CS, favoring adaptation and resolution of the crisis. This feedback assumes a more evident and objective manifestation, no longer anticipatory, when a consequence of adaptation is produced which has retroactive implications by way of reappraisal loops which modify the original primary and secondary appraisals.

Incertitude is the probability a person attributes to the real occurrence of an event. An event (e.g., getting an extension to make a payment or losing a valuable item in the above

mentioned example) can have a real probability of occurring, but this objective probability becomes a subjective probability by way of individual information processing, which is susceptible to the use of biases and heuristics, as well as to cognitive errors or distortions. When incertitude increases, of course, the confusion in appraisal increases whereas adaptation decreases. For example, in a crisis generated by the kidnapping or disappearance of a loved one, incertitude about the event leads to a state of confusion in which it is quite difficult to perform control anticipations and reasonable decision-making, because of the paralysis of any anticipatory coping process, and practically for the only thing the person can do is to prepare for the worst of the possible consequences.

4. *Temporal factors*. These are aspects of temporal parameter referring to the temporal imminence, duration, and incertitude. Imminence corresponds to the time elapsing during the anticipatory appraisal before the foreseen event will occur. During this period, the person makes primary and secondary appraisals influencing her emotional state, which depends more on the type of appraisals than on the duration of anticipation. Just as an appraisal made during this period might lead to reducing the expectations of severity, it can also increase them, and just as it might lead to improving the efficacy expectations it can also worsen them. In a favorable case, there is a decrease in the emotional response and an increase in the probability of successful coping; in the contrary case, the so-called *incubation of anxiety* (Chorot, 1991), can be produced, a process that predisposes even more to the deepening of the crisis.

Duration refers to the time during which the event originating the crisis continues. Following Lazarus and Folkman (1984b), in this paper we adopt the viewpoint developed by Hans Selye (Bensabat, 1987; Selye, 1956) regarding the evolution of the General Adaptation Syndrome to describe the impact of the duration of the event and its evolution throughout the stages of alarm, resistance, and exhaustion, an approach that will be addressed again later. If the event continues in time, coping is what determines an evolution towards exhaustion or adaptation. Exhaustion is produced to the extent that the event happens to be inescapable and unavoidable, with no reductions in the primary appraisal of severity and susceptibility, and with no changes in the secondary appraisal about coping alternatives. The passing of time involves modifications in these appraisals, both by way of its effect on memory and because of the effect of reappraisals coming from the adaptive result of the coping the person has attempted. Coping with a chronic event that has originated a crisis can become a challenge for the person, similar to the challenge of dealing with chronic physical pain, with the production of emotions more akin to those produced by the interpretation of challenge that favors the onset of instrumental situation management reactions, than to those produced by the interpretation of threat, which favors the onset of anxiety emotional reactions.

Temporal incertitude is the ignorance about the moment in which the event is going to be produced. In a CS, the triggering event has already occurred and, for this reason, temporal incertitude might be more related to the threat of new events, as in the case of an earthquake which might be followed by aftershocks. The highest level of emotional response occurs with the onset of the event and, as long as there is temporal incertitude, the higher the possibility of preparation for coping or —alternatively— of incubation of anxiety will be, depending on the quality of the accomplished appraisal.

5. *The chronology of events*. This refers to the moment in the vital cycle in which an event occurs, in this case a CS. Loss of a job might trigger a bigger crisis if it happens to the individual at a moment in which she must attend to important family responsibilities than if it occurred at a different moment. An important fact is that a

critical event modifies the sensitivity of the person to other facts which, without the presence of a CS, might have a completely different meaning. The chronology of the events influences considerably the commitment a person has to the particular event occurring in a CS.

6. *The incertitude-ambiguity dynamics and its influence on coping.* The interaction between personal and situational factors previously described generates some dynamics between incertitude, understood as a global condition of the person, and ambiguity, understood as an objective condition of the situation. A contradiction is generated as a function of these dynamics, for whose solution the most feasible immediate alternative in a CS is the reduction of incertitude, insofar as the objective harm is a fact which has already occurred and entails little ambiguity, and whose control, in addition to the control of parallel threats, is the main source of personal incertitude and the main goal of situational management.

Emotional Experience during the Crisis

In this section, we will analyze a fundamental aspect of a CS, understood as a state of great psycho-biological alteration, in which emotional experience plays an intermediate role, which follows cognitive appraisal and antecedes coping in a cyclic process directed by successive reappraisals.

The perception of the triggering stimulus during the crisis, the appraisal of its highly harmful and unpleasant character, and the interaction between primary appraisals —representing the magnitude of what is at stake in the CS— and secondary appraisals —representing the possibilities of successful coping with the crisis— determine both the extent and the quality of the predominant emotional experience (Lazarus & Lazarus, 1994). In DPP-CS this experience is conceptualized in a global manner as an intense, emotional state of pain, so as to refer to the natural function of the negative emotions experienced during a crisis, which essentially lead to the appearance of escape and/or avoidance behaviors.

The label of *emotional pain* addressed to the subjective experience or feeling suffered in a CS emphasizes the harmful role of stimuli that usually trigger a crisis more than the isolated nature of the experienced emotion, in a process in which the experienced distress becomes an initiating source of defensive reactions configuring the process of pain control and of protective reactions configuring the process of harm control.

That complex state of emotional experience during a CS makes it adopt a syndrome-like nature rather than one of pure expression of an isolated emotion. The factor ruling the emotional predominance in one or the other sense (e.g., anxiety, depression, shame, guilt, or challenge) and providing conscious sense to the emotional experience during the evolution of the crisis can be located in the emotional cognitive attitude that is predominant in a particular moment. An *emotional cognitive attitude* (Martínez-Sánchez et al., 2002) is understood as a thought schema by which the meaning of some external event is filtered, anteceding a general emotional category or syndrome mixing diverse emotions but assuming a dominant tone of emotional expression according to the meaning attributed by the filter to the emotional experience. In fact, this cognitive filtering facilitates the onset of the emotion that is experienced and reported by the person as a conscious experience. Such emotional cognitive attitudes include, among others, the filtering of irreversible loss underlying the sadness that, by prevailing and recurring, constitutes a general emotional state of sub-clinical depression; the filtering of threat, which by prevailing constitutes a general emotional state of anxiety; the filtering of offense, which by prevailing determines an emotional state of anger; the filtering of defiance, which by prevailing determines an emotional state of challenge; the filtering of harm, which by prevailing determines

an emotional state of fear; the filtering of loss of control, which by prevailing determines an emotional state of hopelessness; or the filtering of transgression, which by prevailing determines an emotional state of guilt. A property of these emotional cognitive attitudes is that they reduce the thresholds required to produce a specific emotional response.

Some authors use these general emotional states to characterize the evolution of a CS (for example, Kübler-Ross, 1997, in her characterization of the stages of grief), although there is scarce empirical support regarding its systematic nature. Such an evolution occurs in response to changes in the initial appraisals by way of a process of permanent reappraisal that is originated in the adaptive or maladaptive consequences resulting from coping attempts successively made by the person, which is why the evolution constitutes a variable process of coping stages and not a rigid and invariable sequence of emotion stages, which is not systematic either in individuals experiencing a CS. It makes more sense to argue that the emotional experience of anger advances the person towards adaptation insofar as it favors the filtering of the situation through a signification of challenge, than to argue that the anger stage is a systematic and necessary antecedent for adaptation. By the same token, it makes more sense to argue that the recurrence of the emotional experience of fear favors the filtering through a signification of harm that leads the person to hopelessness and depression than to propose that the fear stage is followed by the depression stage in the adaptive cycle.

Emotions, characterized by the conscious experience of a feeling that allows a precise labeling of it, possess such a high motivational property that they have been used as a basis to differentiate between intrinsic and extrinsic motivation, attributing to underlying emotions the propelling property intrinsic of actions (Reeve, 2005; Vila & Fernández-Santaella, 2005). This motivational property of emotions (Lang, Davis, & Öhman, 2000) is expressed by means of non-intentional behaviors (e.g., gestures) communicating to others the emotional state, and intentional behaviors (avoidance, escape, approach, inaction —in the case of the depression—, etc.), which constitute the basis for subsequent coping, both instrumental coping focused on during the process of harm control, and emotional coping focused on during the process of pain control. Both of these processes are necessary in the course of coping with a CS as they lead to necessary results for the attainment of personal adaptation in the post-crisis.

Emotional coping, by way of the process of pain control, is essential in CSs given that, frequently, generated harms constitute irreversible losses, in the face of which any instrumental attempt of change is of little help. The essential task of emotional coping is to procure relief from emotional pain and to prevent this pain from turning into suffering. Whereas it is difficult to make a distinction between these two emotions, they are two different emotional reactions (Minsky, 2006). Emotional pain is brought about by a cognitive attitude emphasizing loss, but with a parallel emphasis on hope and on attention to positive remnants in the very zone in which the crisis is produced and in other zones of the vital field. Alternatively, pain is susceptible to reasonable management, as occurs in situations in which a person has to deal with chronic physical pain. A chronic emotional pain quite similar to chronic physical pain, which allows an illustration of our previous assertion, is the so-called "nostalgia" (Paniagua, 2010), where the evocation of memories and the expression of longings constitute the elements of cognitive appraisal contributing to the increase of pain, but also in which the challenge of living more in terms of the present rather than of the past corresponds to an adaptive challenge for the person. Suffering, on the contrary, constitutes an intensification of pain by way of cognitive appraisals magnifying loss and its consequences, highlighting the *unfair* characteristics of the crisis-triggering event, and

generating attitudes of self-compassion leading even to transform the emotion into a tool for the attainment of secondary benefits.

Instrumental coping follows challenge appraisals leading the person to experience a CS as a challenge, and is required particularly to prevent objective threats of the appearance of new harms ("regardless of how bad a situation is, it can get worse"), to prevent the generalization of the crisis to new vital zones different from the original one, and to procure the objective material conditions required to access new levels of post-crisis re-adaptation.

Brief Motivational Interventions (BMI) in Crisis Situations

For reasons of space, this topic will be addressed in more detail in a different article (Gantiva & Flórez, in press). Our aim here is merely to anticipate that the motivational formulation, prior to BMI, is grounded in Riso's proposal of cognitive formulation by levels (2006). This layered (or by levels) formulation demands the identification of the cognitive distortions (Level 1), the nuclear schemata (Level 2), and the second-order motivational schemata (Level 3), that play an essential role in the development of the CS.

In any CS the probability that the available information will generate incertitude in the person increases; in such a case, the role of situational ambiguity is mediated by subjective interpretations, with which the function of personal beliefs becomes more significant in the determination of the course that coping will take. It is for this reason that the modification of these beliefs becomes more relevant as a substantial element of motivational intervention, which has the property of being brief in the sense that it is centered on the production of clear and simple coping decisions or intentions, as an initial step in the solution of a complex CS. The complementary aspect of BMI is the planning of personal self-control to secure the execution of the coping actions the person will decide to implement.

The *clarity* of the solution is a property referring to incertitude, as it alludes to the need that a person will purport true intentions, both in terms of her reinforcement-outcome expectations referring to the efficacy of action, and in terms of her self-efficacy expectations, regardless of the objective ambiguity the situation entails in itself. In this sense, the clarity of the solution has to lead to the double effect of increasing the confidence in the possibility of controlling harm or pain, and increasing individual confidence in the probability of effectively exerting such control. Some examples of clear intentions in a CS can be those of surviving, handling the pain, living without suffering, living in austerity, enduring dearth, doing something almost unacceptable, and so on.

Simplicity is a property referring to the required conditions for the implementation of the solution, and refers to the intentions of implementation that, as pointed out by Gollwitzer (1999), need to be plain or simple in order to be potent, regardless of the objective situational ambiguity. These implementation intentions are the self-control conditions required for the person to carry out the effective actions of pain management, both in the emotional and instrumental ways of coping, leading to the dual processing of control of pain and control of harm, which in turn lead to a new state of personal adaptation, in the presence or absence of the triggering event of the crisis, which might or might not be reversible. Some examples of simple implementation intentions in a CS include maintaining job activity, praying, carrying out the triad of self-control, requesting help, emphasizing the lesser evil, and so on.

Coherently with the previous argument, in BMI procedures of cognitive restructuring such as motivational interviewing (Gantiva & Flórez, in press; Lizarraga & Ayarra, 2001; Miller & Rollnick, 1991) and Socratic dialogue (Martínez, 2009) are used as very useful alternatives with the aim of reducing a person's incertitude regarding efficacy expectations of an action and

her own self-efficacy expectations, leading her to the statement of general intentions of action. Procedures of self-control such as *science* (Mahoney & Mahoney, 1976) are also used as a very useful alternative to reduce ambiguity regarding the courses of action required to generate the dual process of coping.

Conclusions

A conceptual model has been developed which allows explaining the events occurring in a *normal* crisis situation —normal in the sense that it has not adopted the shape of a mental disorder—, and which allows orienting the counseling to the person experiencing it with the aim of fostering her control of what occurs and the search for adaptation. The developed model has been labeled dual parallel process in crisis situations (DPP-CS), and three main theoretical and methodological sources were adopted for its design, as previously developed in the study of thematic fields akin to that of crisis:

1. The dual extended parallel process model, through which Witte (1992) provides an explanatory framework about what occurs when fear is taken as a determinant variable for the adoption of behaviors of avoidance of threats that become real unless such a behavior, suggested by way of a message, occurs. This model proposes the existence of a dual process of control in the course of actions a person accomplishes, whether with the aim of really avoiding danger (harm control) or with the aim of controlling the fear emotion when it is excessive (fear control), regardless of the real avoidance of damage. Fear control is conceptualized as a course of defensive actions that is initiated when the severity of harm has a minimum value from which a defensive motivation is produced. Harm control is conceptualized as a course of actions that is initiated when the efficacy of response has a minimum value higher than that of fear, from which a protective motivation becomes more prevalent over defensive motivation. This theoretical source has been adopted by way of the characterization of a crisis as an event in which the occurrence of a harmful event generates the experiencing of a highly-intense negative emotional state, characterized in a generic way as emotional pain.

2. The interactive theory about stress and coping proposed by Lazarus and Folkman (1984b), which analyzes stress as a process of interaction between external or internal threatening events and a person's cognitive appraisal regarding the inherent harm to the event and regarding her own ability to deal with the threat. The cognitive appraisal is also analyzed as a dual process in which the intermediary variables that support it are established: on the one hand, primary appraisal, referring to perceptions of severity of the harm inherent to the threat, and of personal vulnerability or susceptibility to harm. On the other hand, secondary appraisal, referring to outcome expectations a person has, based on the efficacy attributed to the avoidance behaviors the person exhibits, and to personal self-efficacy expectations to these. Cognitive appraisal is proposed in this model as the factor anteceding coping, which is a response process demanding active effort by the person to attain stress management. This theory proposes cognitive reappraisal as a factor of change of the original appraisal, as a function of the adaptation resulting from coping. This theoretical source has been adopted by way of the conceptualization of crisis as a severe stress state in which a deep alteration of motivations occurs, not only in the natural space proper to the crisis event, but in all the spaces forming the total vital field to which a person has a high degree of commitment.

3. The strategy of formulation by levels suggested by Riso (2006) in his proposal about the theoretical and methodological foundations of cognitive therapy, which orients therapeutic action by way of a triple configuration organized in the manner of levels, each of which incorporates some cognitive product or process. Level

1 describes automatic thoughts and cognitive distortions, which are cognitive-type products that are more accessible for the explanation of a disorder. Level 2 is formed by a dual system of information processing in which a central role is played by the cognitive economy throughout the information processing under the lead of essential biases and heuristics on the one hand (System A), and by the information processing under the lead of schemata which self-perpetuate maladaptive schemata (System B), on the other. Level 3 is formed by ideological-conceptual, evaluative, higher motivational, and constructive schemata. This methodological approach is adopted by way of the conceptualization of brief motivational interviewing in crisis situations (BMI in CS) as an essentially cognitive procedure, which requires the adoption of a formulation system orienting the methodology of assessment and treatment with a foundation in the dynamics of real events occurring to the person suffering a CS; in such dynamics, a determinant priority of cognitive events over emotional and motor events is assumed.

The theoretical and methodological sources subsidizing the conceptualization of DPP-CS have a large tradition of empirical investigation supporting them in scientific psychology. Nevertheless, their integration as an explanatory model of crises is relatively new and requires the development of empirical studies verifying it; the novelty of the model is of a great interest regarding the addressing of a crisis in a normal stage of its development, when it has not yet assumed pathological manifestations and as a field of application of BMI.

The development of empirical studies to support the DPP-CS model initially implies the development of measurement instruments applicable to the intermediary cognitive variables included in the model, as well as the measurement of coping processes. In this respect, there are numerous antecedents in some traditional areas of psychological research such as stress and motivation, particularly in those fields dealing with the application of motivational theories to the prevention of disease and the promotion of health. Having these assessment instruments will make it possible to establish how appropriate DPP-CS is as an explanatory model of what occurs during a CS. Likewise, these empirical studies imply the development of systematic experiences of proactive modification of what has occurred in a CS, in order to verify the predictions that can be made regarding treatment, whose characterization is made by way of BMI in CS, which includes essential procedures of cognitive restructuring such as Socratic dialogue, of decision-making, as motivational interviewing, and of self-control of actions.

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