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POSITIVE LIFE CHANGE AFTER CANCER:
THE KEY INGREDIENTS TO FACILITATE IT AND EFFECTS ON WELL-BEING

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En las últimas décadas se ha impulsado desde la Psicología Positiva (PsiPos) el estudio científico de los cambios vitales positivos tras un cáncer, integrándolos con los cambios negativos, desde un mismo marco de experiencia humana. Se han diseñado intervenciones novedosas que han priorizado vías de reducción del malestar emocional y la psicopatología en cáncer desde la facilitación de un funcionamiento psicológico positivo con resultados prometedores. Se realiza una revisión e integración teórica de los constructos de la PsiPos encontrados en bases de datos relevantes (Psycinfo, Pubmed, Web of Science, Scopus, entre otros) que se han relacionado con los cambios vitales positivos tras un cáncer y su potencial terapéutico. Por último, se describe un resumen del programa de psicoterapia positiva en cáncer apuntando las estrategias terapéuticas facilitadoras de estos cambios positivos. Los cambios vitales positivos tras pasar por un cáncer son más la norma que la excepción. Estos cambios juegan un importante papel en la adaptación psicosocial, adherencia a los tratamientos oncológicos, bienestar y calidad de vida. Programas de tratamiento psicológico basados en la Ppos tienen resultados prometedores en cáncer que complementan y pueden mejorar los resultados de programas tradicionales de control o manejo de estrés.
Palabras clave: Cambios vitales positivos, Cáncer, Intervenciones positivas, Estrategias terapéuticas.

Over the last decades, Positive Psychology (PP) has promoted the scientific study of positive life changes in the aftermath of cancer. These have been integrated within negative life changes, based on the same human experience framework. Innovative interventions have been designed, prioritizing the pathways to the reduction of emotional distress and psychopathology in cancer, through the facilitation of positive psychological functioning. These interventions have achieved promising results. A theoretical and integrative review of the PP-related constructs was performed in the relevant databases (PsycINFO, PubMed, Web of Science, Scopus, etc.). These constructs have been linked to positive life changes after cancer and their therapeutic potential. Finally, we provide a summary of a positive psychotherapy program for cancer survivors, indicating the therapeutic strategies that facilitate positive life changes in the aftermath of cancer. Positive life changes after suffering cancer are more the norm than the exception. These changes play an important role in psychosocial adjustment, adherence to cancer treatments, well-being and quality of life. Psychological treatment programs based on PP achieve promising results with cancer. These programs are capable of complementing and improving the outcomes achieved by traditional stress-management programs.
Key words: Positive life changes, Cancer, Positive interventions, Therapeutic strategies.

Despite the existing advances in primary cancer treatment (surgery, chemotherapy, radiotherapy and hormone therapy), the high survival rates have not involved achieving greater well-being or quality of life. In fact, a large percentage of survivors (35%-38%) experience high psychological distress and major difficulties in functioning and the carrying out of activities of daily living after surviving the disease (Carlson et al., 2004; Zabora, Brintzenhofeszoc, Curbow, Hooker, & Piantadosi, 2001). At the psychological level, for example, there is a high prevalence of posttraumatic stress symptoms (Kangas, Henry, & Bryant, 2002), persistent anxiety, depression and fatigue in the period of survival after breast cancer (Haberkorn et al., 2013; Przezdziecki et al.,

2013; Sheppard, Llanos, Hurtado-de-Mendoza, Tailor, & Adams-Campbell, 2013). This prolonged psychological discomfort is critical in the evolution of the disease because it causes a low quality of life, poor self-care, poor adherence to cancer treatments, and even a worse prognosis and overall survival (DiMatteo, Lepper, & Croghan, 2000; Giese-Davis et al, 2011; Honda, Goodwin, & Neugut, 2005; Reich, Lesur, & Perdrizet-Chevallier, 2008). Until two decades ago, the psychological interest in the cancer survivor focused on the negative and painful experience, more reactive to the disease. However, over the past two decades, coinciding with the emergence of PP, there has been greatly amplified interest in positive psychological functioning throughout the cancer process and its ability to foster positive personal transformations. Thus, the goal of PP, understood as the study of the foundations of psychological well-being, and human virtues and strengths, has permeated the different studies in the field of psycho-oncology.

The phenomenon that has been most studied within PP in cancer is that of posttraumatic growth (PTG). PTG refers to the positive personal changes that some people experience after going through a potentially traumatic experience, such as cancer. There is more than one model to define PTG, but the one most used so far has been that of Tedeschi & Calhoun (1996), which states that these personal changes occur basically in five areas: consideration of new possibilities in life, improved personal relationships, greater emphasis on spirituality, greater personal strength and greater appreciation for life itself. These five areas, in turn, form the PTG evaluation tool created by the same authors, which is the most commonly used in studies assessing PTG: the *Posttraumatic Growth Inventory* (Tedeschi & Calhoun, 1996).

Recent meta-analyses show a consistent relationship between the variables related to positive psychological functioning (positive emotions, growth and benefit-finding) and robust results associated with health such as mortality, physical health indicators or the degree of recovery from physical illnesses (Vázquez, 2013). Likewise, the overall results of the meta-analyses in cancer patients show that patients who experience PTG adapt better after the disease, showing better mental health, as well as a better subjective state of physical health (Helgeson, Reynolds, & Tomich, 2006; Sawyer, Ayers, & Field, 2010). In particular it has been found that PTG in cancer was associated with less emotional distress and posttraumatic symptoms (Sawyer et al., 2010). The fact that there is an association between high levels of post-traumatic stress and loss of quality of life in patients with cancer (Cordova et al., 1995), and that this loss is lessened when PTG is experienced (Morrill et al., 2006), suggests that growth may be a therapeutic route to enhance in order to facilitate the quality of life in survivors. PTG has also been associated with more salutogenic behaviors (Milam, 2006) in survival. For example, growth has been associated with greater adherence to routine check-ups in women with breast cancer (Sears, Stanton, & Danoff-Burg, 2003). If these positive life changes, summarized in the studies on PTG in cancer, appear to be associated with better psychosocial adjustment to the disease and better self-care and adherence to oncology treatments, several questions arise: What elements are associated with these positive life changes? Can this natural process of positive change in adversity be facilitated by positive psychology? Does this facilitating provide a therapeutic advantage compared to other therapeutic approaches?

Given the importance of PTG in cancer, this review aims to show the sociodemographic, medical and psychosocial factors that have been associated more with positive life changes. Secondly, a treatment program focused on PP will also be summarized, explaining the therapeutic strategies that facilitate these positive life changes and the results obtained.

WHAT SOCIODEMOGRAPHIC OR MEDICAL ELEMENTS ARE ASSOCIATED WITH PTG IN CANCER?

A number of lines of research have provided information on the predictive power of some socio-demographic, psychosocial or medical variables in the development of PTG in cancer patients (see Table 1). Similarly, the predictive power of these variables has also been explored in the positive psychological functioning in patients with a specific type of cancer, such as breast cancer. In this section we summarize the main findings on the subject, and Table 1 shows the number of studies supporting or not supporting the relationship of different factors with PTG. To see the power of these relationships in the different studies please see a recent systematic review (e.g., Casellas-Grau, Vives, Font, & Ochoa, 2016).

Among the sociodemographic variables, age is the characteristic that has been studied the most. In general, the studies report an inverse relationship between this variable and

TABLE 1 RELATIONSHIP BETWEEN SOCIODEMOGRAPHIC, MEDICAL AND PSYCHOSOCIAL CHARACTERISTICS WITH DEVELOPMENT OF PTG IN CANCER PATIENTS	
Sociodemographic characteristics	**Relationship with PTG**
Age	Inverse relationship between age and PTG (n=11) Non-significant relationship between age and PTG (n=8) Direct relationship between age and PTG (n=3)
Gender	Non-significant relationship between sex and PTG (n=7) Female sex has greater tendency to develop PTG than male sex (n=6)
Civil status	Non-significant relationship between civil status and PTG (n=5) Direct relationship between being married and PTG (n=3)
Education level	Non-significant relationship between education level and PTG (n=7) Inverse relationship between education level and PTG (n= 6) Direct relationship between education level and PTG (n=4)
Socioeconomic level	Non-significant relationship between socioeconomic level and PTG (n=5)
Psychosocial characteristics	**Relationship with PTG**
Social support	Direct relationship between social support and PTG (n=11) Non-significant relationship between social support and PTG (n=2)
Religious affiliation	Direct relationship between having a religious affiliation and PTG (n=4) Non-significant relationship between having a religious affiliation and PTG (n=1)
Optimism	Direct relationship between optimism and PTG (n=3) Non-significant relationship between optimism and PTG (n=3)
Positive affect	Direct relationship between positive affect and PTG (n=3) Non-significant relationship between positive affect and PTG (n=3)
Quality of life	Direct relationship between quality of life and PTG (n=3) Non-significant relationship between quality of life and PTG (n=3)

TABLE 1
RELATIONSHIP BETWEEN SOCIODEMOGRAPHIC, MEDICAL AND PSYCHOSOCIAL CHARACTERISTICS WITH DEVELOPMENT OF PTG IN CANCER PATIENTS (continuation)

Well-being	Direct relationship between well-being and PTG (n=4)
Hope	Non-significant relationship between hope and PTG (n=2) Direct relationship between hope and PTG (n=1)
Happiness	Direct relationship between happiness and PTG (n=1)
Gratitude	Direct relationship between gratitude and PTG (n=1)
Medical Characteristics	**Relationship with PTG**
Site of cancer	Non-significant relationship between site of cancer and PTG (n=4)
Stage of cancer	Direct relationship between stage of cancer and PTG (n=4) Non-significant relationship between stage of cancer and PTG (n=4)
Type of surgery	Non-significant relationship between type of surgery and PTG (n=6)
Type of cancer treatment	Non-significant relationship between type of cancer treatment and PTG (n= 9) Direct relationship between receiving chemotherapy and PTG (n=3) Direct relationship between receiving radiotherapy and PTG (n=1) Inverse relationship between receiving radiotherapy and PTG (n=1)
Time since diagnosis	Non-significant relationship between time since diagnosis and PTG (n=10) Direct relationship between time since diagnosis and PTG (n=6) Inverse relationship between time since diagnosis and PTG (n=2)
Time since treatment	Non-significant relationship between time since treatment and PTG (n=4) Direct relationship between time since treatment and PTG (n=1) Inverse relationship between time since treatment and PTG (n=1)
Recurrence	Non-significant relationship between recurrence of illness and PTG (n=2)

the development of PTG, with young people tending to develop PTG more frequently (e.g., Manne et al., 2004). However, there are still some studies that found a direct relationship between such variables -three articles out of a total of 22- (e.g., Jansen, Hoffmeister, Chang-Claude, Brenner, & Arndt, 2011) or an absence of relationship (e.g., Nenova, Duhamel, Zemon, Rini & Redd, 2013). The reason for the differences in the results of recent studies could be due to the type of sample, as some cancers belong more to certain older age ranges (for example, breast cancer is usually diagnosed around the age of 50), while other types of cancer, such as leukemia, tend to affect younger people.

Studies that have explored the influence of gender on PTG find that it is women who tend to develop more PTG in relation to men, probably because women also show a greater sense of threat and emotional involvement in the form of discomfort or post-traumatic stress, which has been associated with greater PTG (Barakat, Alderfer, & Kazak, 2006; Mcdonough, Sabiston, & Wrosch, 2014; Morrill et al, 2006; Mystakidou et al, 2007; Sears, Stanton, & Danoff-Burg 2003; Yi & Kim, 2014). In this sense, we have also evaluated the influence of being or not being in a relationship on the facilitation of PTG and the results show that not this does not have an influence (e.g., Svetina & Nastran, 2012), although some studies found a direct relationship (Bellizzi & Blank, 2006; Mystakidou et al, 2008; Weiss, 2004). It seems that the differences were more related to the quality of social support received from the partner. Conceivably, a relationship that provides quality support encourages PTG in a very similar way to how it provides social support. In fact, the vast majority of articles directly associated social support and PTG (e.g., Lelorain, Tessier, Florin, & Bonnaud-Antignac, 2012). Another psychosocial factor closely related to the development of PTG and social support is religious affiliation. Religious affiliation, in fact, has been linked to increased emotional support, whether from other believers, or the belief in a God (e.g., Bellizzi et al., 2010). The variables that are typically associated with a positive psychological functioning in PP, such as optimism, hope, positive affect and quality of life, do not show consensus either, since virtually the same amount of articles were found for and against their relationship with PTG (Casellas-Grau, Vives, Font, & Ochoa, 2016). However, there does seem to be consensus as to the direct relationship between well-being and PTG in the four studies that analyzed this (Danhauer et al, 2013; Lelorain et al, 2012; Olden, 2009, Ruini & Vescovelli, 2012). Finally, two studies that have analyzed concepts close to that of well-being and its relationship with PTG, namely happiness (i.e., Lelorain, Bonnaud-Antignac, & Florin, 2010) and gratitude (Ruini, Vescovelli, & Albieri, 2013), also found a direct relationship.

Finally, multiple studies have evaluated the predictive power medical variables have on the development of PTG in cancer patients. In general, it has not been observed that these factors have a significant influence on the development of PTG. Specifically, the location of the tumor, the type of surgery and cancer recurrence all appear to be unrelated to the later development of PTG in patients. Less consensus was found in relation to the tumor stage; half of the studies found a direct relationship between this variable and the development of PTG (e.g., Jansen et al., 2011), while the other half found a non-significant relationship (e.g., Mols, Vingerhoets, Coebergh, & van de Poll-Franse, 2009). One study (Lechner, Carver, Antoni, Weaver, & Phillips, 2006) articulates these results, finding a curvilinear relationship the between stage of the cancer and benefit-finding from the disease. Thus, the most benign tumors (Stage I) and the most advanced ones (Stage IV) are the ones

that least facilitate PTG. The former because the low sense of threat would not facilitate changes in the way that patients see themselves, others or the world, and the latter, because the highly life-threatening situation could block the changes precisely because the patients cannot see enough possibilities of life projection to make it worthwhile to change. Thus it is the intermediate stages (II and III) which generate sufficient uncertainty and threat to consider positive life changes and a life perspective to be able to carry them out.

As for the type of cancer treatment and PTG, most studies did not find a significant relationship (e.g., Tallman, 2013), although three showed a direct relationship between chemotherapy and developing PTG (Hefferon, Grealy, & Mutrie, 2009; Jansen et al, 2011; Lee, Robin Cohen, Edgar, Laizner, & Gagnon, 2006; Lelorain et al, 2010). Finally, other variables such as the time elapsed since diagnosis (Brunet, McDonough, Hadd, Crocker, & Sabiston, 2010), or the cancer treatment (Turner-Sack, Menna, Setchell, Maan, & Cataudella, 2012) were not linked irrefutably to PTG either, although it seems that the temporary removal of the acute part of the disease can facilitate PTG, without the optimum time being clearly determined.

POSITIVE PSYCHOLOGY APPLIED IN CANCER

Applied Positive Psychology or Positive Psychotherapy (PP) in cancer has emerged in connection with the significant boost that

PP has been experiencing over the last decade. Its central premise is to promote and prioritize the focus of the psychological intervention on the positive resources of people, such as positive emotions, strengths and personal meaning (including the existential and spiritual), complementing the more traditional approaches that focus on the reduction or management of psychopathological symptoms or emotional distress (Ochoa, 2014; Rashid & Seligman, 2013). One of its basic assumptions, relevant to cancer and with a clear humanistic-existential tradition, is that people have an inherent desire for growth, fulfillment, and happiness rather than merely seeking to avoid misery, worry and anxiety. Thus, it is well understood that a substantial part of suffering, emotional distress and psychopathology in cancer is created by the logical limit imposed on life by death, or its perceived threat –which is made evident with cancer-. However, another important part of the suffering with cancer has to do with the hindering of the huge and pressing need to address and make positive life changes that arises intensively after total or partial awareness of mortality with serious illnesses.

HOW CAN WE FACILITATE POSITIVE LIFE CHANGES (GROWTH) IN CANCER?

In 2010, in our study group, we created the first guide to a program of positive group psychotherapy for cancer patients (PPC, Ochoa et al., 2010). The basic objective of the PPC is to

TABLE 2
DESCRIPTION OF POSITIVE PSYCHOTHERAPY IN CANCER

INITIAL PHASES: PROMOTING THE ASSIMILATION PROCESSES			
Module	Session	Objective	Sessions / Therapeutic elements
1	1 and 2	To promote attitudes that facilitate growth from the disease To encourage expression/emotional processing	1. Promoting curiosity for life, group universality and openness to change 2. "The positive intention of the symptom". Working with negative and positive emotions: somatic awareness, symbolization and emotional adaptive resignification
2	3 and 5	Emotional regulation and coping	3. Emotional awareness and balance 4. Horizons of positive change and healthy lifestyles 5. Working with strengths and memories of success in coping with other adverse events

INTERMEDIATE AND FINAL PHASES: PROMOTING THE ACCOMMODATION PROCESSES			
Module	Session	Objective	Sessions / Therapeutic elements
3	6 - 9	Facilitating posttraumatic growth	6. Giving meaning to the experience: working with recent and remote positive autobiographical memories. 7. Giving meaning to the experience: Personal fulfillment guide and hope based interventions. 8. Relational growth: promoting or arousing interest in others and working with positive role models in adversity. 9. Relational growth: interventions based on gratitude and forgiveness.
4	10-12	Existential and spiritual aspects	10. Anticipating a relapse, awareness of increased mortality and Closing the group transience, and addressing emotional anesthesia. 11. Transcendence and repentance as a constructive path 12. Farewell letter and review of the group experience

facilitate psychosocial adaptation, promoting PTG in patients, caregivers and significant others. The PPC group program (see Table 2) consists of 12 weekly sessions of 90-120 minutes duration, with two follow-ups after 3 and 12 months of completing the intensive phase of psychological treatment. The closed groups were composed of 8-12 post-cancer treatment patients, disease-free and with moderate or severe adaptation problems. The sessions are divided into four modules (see Table 2) of varying lengths and with different objectives, which can be adapted and made more flexible to the pace of the group. The general objective of the first two modules is to facilitate the process of assimilation of the experience of cancer by working with elements that allow greater emotional regulation and better coping. The last two modules, which are more extensive, focus on promoting the processes of accommodation and personal transformation of the experience with the disease, which we understand as growth per se.

Some theoretical models of growth in adversity make a useful distinction between the processes of assimilation and accommodation of the adverse experience (e.g., cancer). In general, they try to distinguish whether the person does or does not change their view of what they have experienced (e.g., "cancer is just another bump in the road of life"), either it is consistent with the patient's previous way of seeing things (assimilation) or they change their way of seeing things in order to incorporate the experience successfully (accommodation). For example, "Now I can clearly distinguish between what is important and what is trivial nonsense." Although they do not involve two purely sequential processes, the processes of assimilation prevail in the immediate aftermath of the adverse event (time of crisis and post-crisis) and they comprise elements of emotional expression, processing and regulation, as well as what we know as coping strategies focused on managing and the way of seeing the event itself. Different factors associated with the processes of assimilation and those of accommodation have been associated with personal growth in adverse situations (Zoellner & Maercker, 2006), but many authors understand that true, real and present growth only occurs through accommodation (Joseph & Linley, 2006; Sumalla, Ochoa, & Blanco, 2009), i.e. by profound changes in the view of the self, others and the world, resulting from the need to process the traumatic information that serious illness tends to impose. This is why our group program dedicates more sessions to the accommodative processes than to those of assimilation.

Below we briefly explain the 12 group sessions of the PPC, to complement Table 2 where we explain the specific objectives, techniques and strategies that facilitate positive life change in cancer, as described in more detail elsewhere (Ochoa & Casellas-Grau, 2015; Ochoa et al, 2010) and which have been used in a similar way to approach other adverse situations (Vázquez, Pérez-Sales, & Ochoa, 2014).

Session 1: What did it mean to be diagnosed with cancer? Promoting life curiosity, group universality and openness to change. After providing the group rules (punctuality, confidentiality, trust and support), the presentation starts with a first individual testimony regarding before, during and after the cancer process, promoting reciprocal life curiosity in the group, noting the commonalities and universal aspects in the responses (emotions, thoughts and behaviors) and exploring openness to change. Curiosity as an attitude to life is one of the survival mechanisms that facilitates the development of new skills and ways of understanding reality, and ultimately growth. Specifically, it has been seen that people who score high on personality dimensions such as "Openness to experience" characterized by being imaginative, emotionally reactive and intellectually curious have been more likely to experience growth (Tedeschi & Calhoun, 1996).

Session 2: "The positive intention of the symptom." Working with negative emotions: emotional expression, somatic awareness, emotional symbolization and adaptive re-signification. The expression and processing of primarily negative emotions is encouraged, facilitating an adaptive explanation for the symptoms of emotional distress (e.g., post-traumatic stress) and enabling them to be reconceptualized in a positive light, as a "normal reaction to an abnormal situation" (the cancer). Benefits were found of emotional expression in patients with breast cancer upon finishing the treatment, in measures of increased vigor, decreased emotional distress and improved quality of life when they were followed longitudinally (Stanton et al., 2000).

Session 3: Emotional awareness and balance. After the first interventions that primarily dealt with emotional distress, now progress is made with the aim of establishing emotional balance: exploring not only negative emotions, but also accommodating therapeutic recognition and work with positive emotions. We refer to asking not only how the disease has affected them, but also what they have done and what they are doing to survive, resist or prevail. During the interventions of the different group members, it is advised to note or make minor indications on the current presence of positive emotions, for example through increasing somatic awareness of these emotions, with the aim of being able to symbolize or nominalize the positive emotion. Pointing out to patients the moments in which positive emotions appear is especially important in the initial stages in order to cushion the emotional distress that the first group testimonies release (Fredrickson, 2001).

Session 4: Horizons of positive change and healthy lifestyles. Personal and group goals for change are developed, trying to imagine how the person would know that the group experience

has worked. For example, "How can we begin to know that you are starting to feel better? Who would be the first person closest to you to realize? How would that person observe your change?" Lifestyle changes after the disease are also explored and discussion is promoted about the personal and idiosyncratic changes the patients would like to make towards what each person understands as healthy.

Session 5: Working with strengths and memories of success in coping with other adverse events. Facilitating the detection of strengths and virtues that each member identifies in himself and in others, looking at current or past situations that have been faced successfully. Parallels are made with past situations overcome with more or less success, which can help draw lessons. "How were you able to rise above your problems then? What was helpful?" Then, the strength or virtue detected is used as a way to promote an alternative change or coping strategy. For example, "You say that you are not able to maintain interest in anything since you finished treatment, but I see that you continue fighting with your son about his homework and you take your mother for a walk daily. Could the perseverance and interest you show in getting your son to study and taking your mother for walks be of help for any other problem we are dealing with?

Session 6: Giving meaning to the experience. Working with positive, recent and remote autobiographical memories. In attempting to give continuity and life coherence to the experience, narratives arise in cancer survivors searching for new meanings that aim to integrate and respond to events that the disease has questioned, and which for many are the essence of posttraumatic growth (Ochoa, Casellas-Grau, Vives, & Font, 2017; Park, Chmielewski, & Blank, 2010; Tedeschi & Calhoun, 1998). Some searches are posed as questions, such as: "What are my priorities now? Who has been close to me in this illness and tuned in with my new concerns and difficulties? In order to provide a constructive and transformative view of the disease, working with positive autobiographical memories (PAM) is suggested. Updating memories either in writing or using guided imagery of positive autobiographical episodes is encouraged; although it may initially bring awareness of what has been lost or what is now in the past, it also causes the reliving of pleasant sensations, the fulfilling of personal and relational autobiographies, a sense of progress or fullness and in all probability personal growth. In addition, returning to a positive memory makes the experience remembered or similar ones more likely to recur or activate behaviorally (Wirtz, Kruger, Scollons, & Diener, 2003).

Session 7: Giving meaning to the experience: Personal guidelines for fulfillment and interventions based on hope. To create personal guidelines for fulfillment, we mean the attempt to formally establish connections between what is repeated successfully, generating meaning, fulfillment and purpose in life. The personal fulfillment guidelines that are easiest to establish in cancer patients are those corresponding with significant anchors that help maintain a sense of improved continuity after the illness (e.g., "My family who have been here for me, my partner who continued to help me to feel loved, hobbies that make me feel useful and valid, etc.") Based on these items of personal fulfillment that arise in the previous sessions, the aim is to see how they can be maintained or increased in the present and future. To this end, an intervention is begun based on hope and focused on setting goals, developing skills to find ways or itineraries in order to reach them and self-motivation for achievement (Snyder, 2002).

Session 8: Relational growth: Promoting or arousing interest in others and working with positive role models in adversity. One of the clinical indicators of improvement in mental health and personal growth is the ability to transcend one's own "ego" (Joseph, 2011). Relational growth has to do with the decentering of the self, the capacity to care, worry and engage with others, and in a more affective sense, to love and be loved. A recent review on cancer survivors and their significant others (Ochoa, Castejón, Sumalla, & Blanco, 2013) suggests that personal growth in the significant other of a patient with cancer is a vicarious experience closely linked to the growth of the survivor. Some therapeutic elements that have been clinically associated with relational growth are: (1) **Encouraging concern for others,** asking how their significant others have responded to and been affected by the illness, and how they have shared and helped each other. Thus the emotions of the other (relational empathy), and their intentions are experienced, and their limitations are understood. (2) **Working with positive role models in adversity**. In adverse situations, it is easy to find oneself without a reference for understanding what one is going through and finding ways of useful coping. This is why many people try to find in their loved ones (present or absent) or in other people going through the disease, positive role models or references, especially in cancer. Group therapies, associations or collectives of people affected reflect this willingness to share and cope collectively, from and with each other. One study (Weiss, 2004) demonstrated the importance of this modeling in women that had contact with other breast cancer survivors who perceived benefits from their experience, noting in them significantly greater benefit-finding (positive life changes) in contrast with women that had not had contact with other survivors. In working with positive role models, first one must identify the person, distill their virtues, values and skills for which they are admired, and then one must explore the possibilities of positive modeling that the person has had and may continue to have on the patient.

Session 9: Relational growth: Interventions based on gratitude and forgiveness. The status of significant relationships after the disease is evaluated in the group, exploring the outcome between what was received and what was expected to be received. Awareness and expression of gratitude are facilitated and the possibility is valued of repairing relationships that have been affected after the disease through therapeutic work with "forgiveness". In the research, experiences of gratitude have been associated with higher levels of well-being and happiness (Ruini & Vescovelli, 2012). In positive psychology, various interventions based on gratitude have been described (Hervás, Sánchez & Vázquez, 2008). In the group, we propose the following exercise in order to become aware of "that positive something" received from others: "Before and after the illness, there are things in your life for which you are grateful. For the next week I ask you to note down each day between one and three things for which you feel grateful." In the next session we analyze and work on these. Showing gratitude deepens the sense of connection with people, reinforces the belief in the goodness of others and promotes expression, communication and intimacy in relationships. Sequentially, after the interventions based on gratitude, we introduce more complicated ones, based on forgiveness. These interventions are usually more complex and care must be taken not to transmit "pressure to forgive", which can be misconstrued. The act of forgiveness can allow the release of negative emotions of pain, resentment and anger which can prevent more positive emotions. Forgiveness tends to be associated positively with psychological well-being, physical health and desired results in interpersonal relationships (Worthington & Scherer, 2004). We practice forgiveness through this task: "Before and after the illness, there are things in our lives that are hard to forgive. Some are already forgiven, forgotten or are no longer important, but others persist in your head with worry, resentment or anger. I ask you, for the following week, to note down between 1 and 3 things that you wish you could forgive." Our intervention for cancer patients includes a number of common elements of interventions focused on forgiveness (Ochoa et al, 2010 Worthington & Scherer, 2004). These include: (1) encouraging empathy with the aggressor, (2) recognizing one's own faults and defects, (3) assessing the type of attribution and the behavior of the aggressor, trying to determine whether it is possible to reduce the perception of locus of control (intentionality) of the aggression, and (4) reducing the rumination on the aggression received, because it encourages revenge and reduces the possibility of forgiveness.

Session 10: Anticipating a relapse, an increase in the awareness of mortality and transience, and addressing emotional anesthesia. Cancer confronts the problematic elements of our existence that refer to transcendental issues such as death, freedom, loneliness and meaninglessness (Yalom, 2000). Thus, positive life changes after the disease are also understood as a different existential positioning, which emerges from greater awareness, clarity and depth around these existential concerns. The question that initiates a turning point for addressing existential issues at a deeper level in the group comes from anticipating the possibility of a relapse in the disease. "How do you think you would cope with a relapse of the disease?" The most frequent response is worry about losing loved ones. Others have to do with fear of suffering, deterioration, loss of autonomy or being a burden to others, to name a few. It is also frequent in the narratives to hear of an existential vacuum or anesthesia shown by expressions of disappointment, helplessness and a feeling of "going through it because you have to", without expecting anything good. Pointing out strategically how these emotional reactions of anesthesia may be part of a kind of dysfunctional preparation for a relapse or death can tend to produce reactions and greater involvement in life, faced with the image of "letting oneself die whilst still alive."

Session 11: Transcendence and repentance as a constructive path. Following the theme of the previous session, we work on transcendence, reflecting on how the patients wish to remember this period free of disease in the face of a possible relapse and how they would like to be remembered in general when they consider that the disease could end their lives. Questions are included such as: "How you would you like your loved ones to remember you if your fears (of death) are met? What values would you like to convey even in that situation or during this time prior to it happening?" These questions seek to promote the inter-generational transmission of values to loved ones and standing as a model for one's own kin, facilitating transcendence. Similar to the previous section, we use repentance as a constructive path, anticipating the future and trying to mobilize change. What would you not want to regret, looking back, if you reached that situation?

Session 12: Farewell letter and review of the group experience. To reflect upon any learnings and considerations arising from being in the group, aiming to respond to the post-therapy challenges: "What has it meant for you to participate in this group? What are some things that still remain to be done now that the group is over? "

EVIDENCE OF PP APPLIED IN CANCER

With regards to the evidence of PP applied in various clinical problems, the meta-analytic studies show it to be effective (Bolier et al, 2013; Sin & Lyubomirsky, 2009), although more studies that use better control groups are required, as well as longer follow-ups. A recent systematic review (Casellas-Grau, Font, &

Vives, 2014), based on positive psychology interventions for survivors of breast cancer, concludes that these interventions can increase the quality of life, well-being, PTG, hope, meaning, happiness, optimism, life satisfaction and benefit-finding. Evidence from the clinical studies conducted so far reveals that the interventions are most effective when they are longer, when the samples come from hospital settings, and when they are more individual than group or self-help style (Bolier et al., 2013).

Based on extensive research and review of the literature on trauma and the growth process after experiencing cancer (Sumalla et al., 2009), positive psychotherapy in cancer (PPC) was created as explained above. The program has already been evaluated and its effectiveness proven in pilot studies, achieving greater reduction of emotional distress, post-traumatic stress and facilitation of PTG compared to a waiting list group (Ochoa et al., 2017) and in comparison with another cognitive behavioral stress management therapy proven for improvement in psychosocial adjustment (Antoni et al., 2001). In the pilot study, it was found that, in comparisons after three and twelve months of follow-up, PPC was superior to cognitive behavioral stress management therapy in reducing emotional distress, post-traumatic stress and facilitating post-traumatic growth (Ochoa, 2012). In studies with larger samples (Ochoa et al., 2017), it has been found that a significant reduction of post-traumatic stress promoted by the PPC is associated with increased PTG. Thus, and as shown in other studies, it is confirmed that patients who experience PTG, or in whom its development is facilitated, are better adapted after the disease, showing better mental health, as well as a better subjective state of physical health (Helgeson et al., 2006; Sawyer et al., 2010). The fact that there is an association between high levels of post-traumatic stress and loss of quality of life in patients with cancer (Cordova et al., 1995), and that this loss is lessened when PTG is experienced (Morrill et al., 2006), suggests that growth can be a therapeutic path to be enhanced in order to facilitate quality of life in survivors. PTG has also been associated with more salutogenic behaviors (Milam, 2006) and greater adherence to routine check-ups in women with breast cancer (Sears et al., 2003).

CONCLUSIONS

With regards to the predictive value of sociodemographic, psychosocial and medical variables in the development of PTG in cancer, we highlight several points. The socio-demographic variable that has most consensus in its results is age, with younger people tending to develop more PTG. In fact, young people tend to perceive cancer as more aggressive and disruptive, not only because of its commonly worse prognosis, but also because being diagnosed at an early age breaks the natural and social story of getting ill and dying that is associated with being old. On the other hand, the social environment is the psychosocial variable most studied in patients with cancer, in terms of PTG. There seems to be consensus on the fact that the greater the social support, the more PTG manifests. Associated with this social support, people who have some kind of religious affiliation also show more PTG. So, ensuring social support throughout the process is key in adaptation to cancer. During the stage of diagnosis and treatment, it is often family, friends and medical staff who most guarantee PTG; however, in the post-treatment stage, quality social support must be ensured among the people that are most affected emotionally, through support or therapy groups, like the PPC described above.

On the other hand, with regards to the medical variables, we note that despite the large number of studies no significant influence has been observed in PTG. For example, only in some studies has a significant direct relationship been established between the act of going through chemotherapy and developing PTG; or between the time since diagnosis and PTG. One possible explanation for the first relationship could be that chemotherapy has worse side effects than other cancer treatments, as well as a longer duration, which could cause the patient to have an increased sense of threat and finding new meanings that would facilitate the development of PTG. In the same vein, a longer time period since diagnosis may facilitate greater distance from the negative effects of treatments and yet maintain the permanent and mobilizing threat of medical checks-up. This threat, sustained but tolerable, can drive positive life changes as greater future projection develops due to reducing the physical threat of the disease and its treatments.

Despite the emergence of PTG, which for many people occurs naturally, designing therapies to promote it is highly useful and important in cases of patients who, after treatment, exhibit significant emotional distress. Recent studies find that part of the emotional distress in cancer is associated with the inability to make positive life changes after the illness (Ochoa et al., 2015). This need for change after the illness can be compelling and urgent, and it can also prove to be very frustrating and distressing if it is not achieved. For this reason, a positive psychotherapy is presented which is particularly focused on facilitating PTG in cancer survivors with adjustment difficulties. The results indicate the effectiveness of this type of therapy not only in facilitating PTG, but also in reducing distress in cancer survivors who experience high levels of stress.

Overall, this review provides useful information for professionals in the field of psycho-oncology, since it points out elements associated with the development of PTG and defines and establishes the keys to facilitate it through interventions based on PP, which have been showing promising results.

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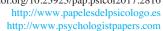
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CONTEMPLATIVE POSITIVE PSYCHOLOGY: INTRODUCING MINDFULNESS INTO POSITIVE PSYCHOLOGY

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A pesar de que mindfulness está integrado en muchos manuales de psicología positiva como una técnica "positiva", apenas se han desarrollado las implicaciones que tiene su uso ni se ha investigado la relación entre mindfulness y bienestar humano. Analizar las principales potencialidades de los dos ámbitos, las posibilidades de integración, así como las posibles contradicciones entre sus mensajes, es fundamental de cara a establecer puentes. Mindfulness es más que una técnica de meditación, lleva implícitos una serie de valores y condicionantes éticos que se adecuan en buena medida con los presupuestos que se proponen desde la psicología positiva, como el desarrollo de la amabilidad, la compasión, y las emociones positivas. El objetivo de este artículo es presentar por un lado aspectos comunes y similitudes, y por otro lado diferencias entre mindfulness y la psicología positiva. También se presentarán los principales estudios que han investigado el papel que tiene mindfulness y las prácticas contemplativas sobre el bienestar humano. Finalmente se discutirá y plantearán futuras líneas de investigación e intervención para acercar ambas propuestas.
Palabras Clave: Psicología positiva, Mindfulness, Meditación, Felicidad.

Although mindfulness is included in many positive psychology manuals as a "positive" technique, the implications of its use have scarcely been developed and the relationship between mindfulness and human well-being has barely been researched. Analyzing the main strengths of the two fields, the possibilities for their integration and the potential contradictions between their messages is essential in order to establish connections. Mindfulness is more than a meditation technique. It has implicit within it a set of values and ethical conditions that coincide to a great extent with the proposed assumptions from positive psychology, such as the development of kindness, compassion, and positive emotions. The aim of this paper is to present, on the one hand, the commonalities and similarities, and on the other, the differences between mindfulness and positive psychology. We also present the main studies that have investigated the role of mindfulness and contemplative practices on human well-being. Finally future research will be discussed and intervention suggested in order to bring the two proposals together.
Key words: Positive psychology, Mindfulness, Meditation, Happiness

Positive psychology has integrated, more or less clearly, contemplative practices such as mindfulness within the range of grounded and empowering techniques of the positive aspects of being human. Despite this, there has been little depth within this movement on its implications and the inconsistencies that exist between mindfulness and positive psychology, and the similarities that can undoubtedly be strengthened in order to build bridges in improving the effectiveness of both ways of understanding human development and the pursuit of psychological well-being.

Mindfulness is defined as a trait or mental state that involves the intentional focusing of the attention on an object (e.g., breathing), while observing thoughts, emotions, and sensations as they emerge in the present moment (Vago & Silbersweig, 2012). Mindfulness training usually starts with a first phase that works on, to a greater extent, the attention focused on an

element, whether in the environment or the body (breathing, feelings, etc.). Then comes a second phase of open monitoring, in which the practitioner places their attention on what is happening at that time, i.e., on the thoughts, emotions and sensations that come up. As for how to practice mindfulness, it is mainly divided into two types: formal and informal practice. The formal practice is where the person has to devote some time to take up a particular position, either sitting in a chair or lying down, and their attention is directed to any phenomenon or object that appears in the present, with the physical sensations being an ideal terrain on which to begin focusing the attention (Cebolla & Demarzo, 2014). The informal practice, on the other hand, involves bringing the attention to daily activities (e.g., eating, showering, etc.), with the aim that the person perform simple exercises of awareness, observation of the senses and attention to what happens in the present moment.

In the field of psychological treatments, incorporating mindfulness, as a primary or supplementary component, has allowed the emergence of treatment programs aimed at reducing different types of symptoms in different groups, and it

has been shown to be effective in multiple disorders. Several meta-analyses and meta-analytic reviews recently published on the effectiveness of interventions based on mindfulness (IBM) have proven effective in reducing symptoms of depression, anxiety and stress in multiple conditions, such as mental disorders, chronic pain, cancer, cardiovascular disease, personality disorders, addictions, etc. (Gotink et al, 2015; Khoury et al, 2013.) In fact, this learning has been considered as a transdiagnostic therapeutic mechanism (Brake et al., 2016). Relapse prevention in depression is where the greatest successes have been obtained: a recent investigation conducted by Kuyken et al. (2015) and published in the Lancet, showed that Mindfulness-based Cognitive Therapy (Segal, Williams, & Teasdale, 2014) significantly decreased the likelihood of a relapse, obtaining better results than using medication.

All these data show that mindfulness is a potential tool for the treatment of various problems. When asked why mindfulness is effective, different authors have investigated the mechanisms underlying its effectiveness (Baer, Smith, Hopkins, Krietemeyer, & Toney, 2006; Shapiro, Carlson, Astin, & Freeman, 2006). In a review by Hölzel et al (2011), the authors proposed five key mechanisms to understanding how the practice of mindfulness influences health: attention regulation, increased body awareness, emotional revaluation regulation, emotional-exposure regulation and changes in the perspective of the self (Cebolla, 2014).

MINDFULNESS IN POSITIVE PSYCHOLOGY

With regards to the relationship of mindfulness with well-being variables, it has shown a positive relationship between the trait mindfulness of a person and positive key self-evaluations such as subjective well-being (Baer, Smith, Hopkins, Krietemeyer, & Toney, 2006) , which, in turn, predicts a higher life satisfaction in people with high levels of trait mindfulness (Kong, Wang, & Zhao, 2014). Garland et al. (2015) found that in a sample of patients with cancer, those who scored higher on their tendency to be mindful (mindfulness trait) were more likely to pay attention to the positive experiences, which in turn was related to an improved capacity for regulating everyday stressful events, which impacted on a greater meaning of life.

In the same vein, mindfulness training has been linked to a moderate increase in levels of positive affect (Schroevers & Brandsma, 2010), a greater sense of coherence, especially at the level of life significance (Ando, Natsume, Kukihara, Shibata, & Sayoko, 2011), improved quality of life (Van Dam, Sheppard, Forsyth, & Earleywine, 2011), greater empathy (Aiken, 2006), greater satisfaction in relationships (Barnes, Brown, Krusemark, Campbell, & Rogge, 2007) and greater hope (Sears & Kraus, 2009). In fact, practitioners of mindfulness meditation are often perceived as happier by external observers (Choi, Karremans, & Barendregt, 2012).

DIFFERENCES AND SIMILARITIES BETWEEN POSITIVE INTERVENTIONS AND INTERVENTIONS BASED ON MINDFULNESS

Despite the inclusion of mindfulness within the paradigm of positive psychology, there are key differences that should be taken into account. Parks and Biswas-Diener (2013) have pointed out that there are three key differences. Firstly, while the aim of mindfulness is for the individual to attend to all experiences, positive and negative, with curiosity and kindness, positive interventions focus exclusively on emphasizing the positive experiences. Secondly, the interventions based on mindfulness (IBM) propose a way of relating to the experiences based on acceptance of them, without trying to change them and with an attitude of non-judgment; while positive interventions are aimed at identifying and expanding the positive experiences, even trying to replace negative experiences with more positive ones. Finally, whereas in mindfulness it is assumed that the problems must be addressed, positive interventions assume that the positive factors make the negative ones less striking, urgent and important for individuals (Seligman, Rashid, & Parks, 2006).

Overall, within positive psychology, mindfulness is seen as a just another healthy practice (Hefferon & Boniwell, 2011). This contrasts with the worldview that professionals trained in mindfulness can have, where the practice can become, in many cases, a way of life that is integrated into the personal, professional and family spheres (Alvear, 2015). Some authors even argue that the ideal motivation to practice mindfulness should be the desire to grow personally, and that there must not be solely a utilitarian reason (e.g., mindfulness as a professional tool) as a motivator (Simon, 2012). Indeed, a sine qua non for instructors of different IBMs is the daily practice at both the formal and informal levels (Crane & Elías, 2006).

Regarding the interventions, within the movement of positive psychology, there are many interventions that share some key elements with mindfulness, and this can therefore lead to confusion. The two interventions with which it shares common features are flow and savoring. Stream of consciousness, also known as flow or optimal experience, is a subjective state that people experience, when they are fully involved in something to the point of forgetting the time and the notion of self, while remaining focused on the activity that they are doing. The conditions for the flow state require: (a) a clear objective, (b) immediate feedback to be able to know if we are getting closer or moving away from the objective, and (c) the degree of difficulty of the task to be balanced with the person's ability. Numerous studies reveal a strong relationship between the time a person spends in flow and markers of subjective well-being (Csikzentmihalyi, 1990). The similarities between the mental state of flow and mindfulness seem to be minimally clear, especially those concerning attention to the present moment, the

loss of the notion of self and delayed gratification after having experienced this state of mind (Kee & Wang, 2008). In fact, from the field of psychometrics, some studies indicate a moderate positive relationship between the two constructs (Bervoets, 2013). It has also been observed that IBMs increase the likelihood of experiencing flow in athletes (Gardner & Moore, 2007). The main difference with respect to mindfulness is that in the state of flow the individual is aware of their actions, but they are not aware that they are aware. Also in flow the attention is focused on the goals and not the process itself.

On the other hand, savoring involves the self-regulation of positive emotions by generating, maintaining or increasing them, paying attention to the positive experiences of the past, present or future and, as also happens with mindfulness, the ability to savor differs from one person to another (Bryant & Veroff, 2007). The similarities between savoring and mindfulness occur in relation to the component of savoring focused on the present. In both cases, the attention necessary to experience the present moment is developed. However, the crucial difference arises because in savoring great emphasis is placed on the enjoyment, the positive assessment and the maintaining of this experience, while in the practice of mindfulness, equanimity and non-reactivity are predominant in relation to this experience, whether it is an experience classified as positive or not. One study observed how savoring and mindfulness work independently in their contribution to subjective well-being: savoring was related more to life satisfaction and positive affect, while mindfulness was more related to the way of managing negative affect (Levy & Vella-Brodrick, 2009).

Despite the differences between them, the two movements share key aspects that are worth highlighting and which can build very interesting bridges, for example they both share the fundamental objective of alleviating suffering and increasing well-being, encouraging individuals to seek their own goals, guided by their intrinsic values, the pursuit of enhancing the positive aspects, training in psychological strengths (kindness, compassion, civility, etc.) and the importance of positive emotions.

Another key aspect in the relationship between mindfulness and positive psychology refers to the role it plays as the central pillar of the spiral of positivity (Garland et al., 2011). In this model, it is suggested that the practice of mindfulness is related to an increase in the positive reappraisal of coping and that they both feed back into each other, creating a dynamic growth of positivity. In this sense, through practice, individuals can generate an expanded state of consciousness that would strengthen the interpretations related to coping with stressful events, leading to a substantial decrease in stress. In another model, by Coffey et al. (2010), it was noted that the relationship between mindfulness and personal growth (flourishing), is mediated by the changes that occur with practice, as practice

helps to address and clarify one's own experience, and to manage the negative emotions. Therefore, these models suggest that mindfulness plays an enhancing and catalyst role in positive interventions, as it allows greater adaptive self-observation (based on the present, curious and kind), an improved ability to regulate the attention, provide clarity, break with automatic processing, promote a "self-regulated" conduct that enhances the ability to make decisions and help manage the judgments that may interfere with the effectiveness of positive interventions. In this sense, Moore and Malinowski (2009), found that study participants who reported higher levels of mindfulness showed greater attention and cognitive flexibility in cognitive tests of processing and endurance. They conclude that the cognitive flexibility achieved through the practice of mindfulness helps detect incorrect and harmful cognitive evaluations, which usually go unnoticed and lead to erroneous attitudes (automatic thoughts and dysfunctional attitudes), enabling individuals to increase their general well-being.

There are two fundamental aspects to understanding the difficulties for integrating mindfulness and positive psychology. Firstly, in terms of research, most questionnaires for measuring positive emotions measure especially those linked to high arousal (joy, enthusiasm, etc.), with very few questionnaires including items on concepts associated with mental calm, peace and serenity. In the case of PANAS (Watson, Clark & Carey, 1988), the most widely used measure of affect, these emotions are not included and only the item "concentrate" would apply to any of the variables that can be influenced by the practice of mindfulness.

Another important aspect is related to the construct of mindfulness itself. This is usually understood in most works as a state of mindfulness and non-judgment; however, the implications of the practice of mindfulness go far beyond that. Mindfulness cannot be practiced without the involvement of positive attitudes of kindness, compassion, gratitude, self-awareness and non-judgment, which is also the objective of positive interventions. Moreover, the roots of mindfulness come from *Dharma* (Alvear, 2014), which aims at the pursuit of happiness and the alleviation of suffering.

In Dharma, the pleasant life is relegated to the background and it is suggested that happiness comes from understanding the sources of suffering and well-being is understood as a deep sense of serenity and fullness that dominates any emotional state. These bases are very similar to the search for eudaimonic well-being (psychological well-being), which is one of the goals of positive psychology.

THE LINK BETWEEN POSITIVE PSYCHOLOGY AND MINDFULNESS: COMPASSION

Compassion is understood as sensitivity to the suffering of the self and others, with a deep commitment to preventing and

alleviating their suffering (Gilbert & Choden, 2013). These same authors pose compassion as a self-regulatory tool and as a method for increasing well-being and positive mental qualities. In short, compassion is not so much an emotional state reactive to suffering, but a motivation, a *reason* that can focus our lives, which facilitates a greater capacity to organize the mind and behavior (Simón, 2014). According to Paul Ekman (2013), there are different types of compassion: emotional recognition, emotional resonance, family compassion, global compassion, compassion for all sentient beings and heroic compassion.

When we talk about compassion, we are actually talking about two different things: on one hand, the desire for others and oneself to be happy (known as "loving kindness", or *Metta*) and, secondly, the desire that others and oneself are free from suffering (*Karuna* or compassion). Therefore, we can understand compassion as a motivation, an emotion, or a stable trait. Training in compassion uses mindfulness based meditations to which strategies of imagination are added, focus on bodily sensations of tenderness and affection, and self-instructions. Given this desire for happiness, self- compassion could play a key role as a mediator between positive psychology and mindfulness, as it shares the bases of the two approaches. In fact, a recent study has shown that self-compassion better explains the relationship between the practice of mindfulness and happiness than mindfulness itself (Campos et al., 2016). In other words, the actual practice of mindfulness involves training in kindness and desire for well-being, even when it is not explicit (Kuyken et al., 2015).
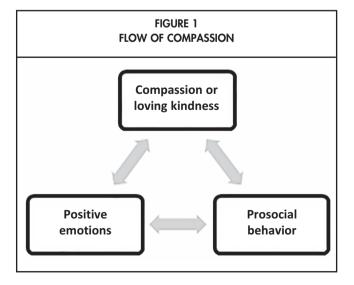
The practice of compassion fosters a feeling of empathy for others when contemplating their suffering, which, in turn, could help us find the motivation to help this person (Simón, 2014). Finally, this prosocial behavior gives us feelings of joy and satisfaction, as we see that we have helped to reduce the suffering of the other person, which facilitates greater compassion, thus closing the circle (Figure 1).

According to Neff, compassion is composed of three factors: kindness, mindfulness, and shared humanity (Neff, 2003). The latter is a key factor of suffering, since the difficulties of others are a common part of our human experience which connects to a technique that has shown great effectiveness in positive psychology, that of gratitude. This shared humanity connects us with the idea of the interdependence of all beings and actions and the importance of others and their actions in achieving one's goals. Gratitude is understood as a feeling that occurs in relationships when one of the members recognizes the benefit they receive from the other (Lomas, Froh, Emmons, Mishra, & Bono, 2014). For example, it has been observed that the tendency towards gratitude is a key factor that contributes definitively to psychological well-being. The research on compassion has grown exponentially in recent years, generating a similar expectation to that of mindfulness at the

beginning of this century (García-Campayo, Cebolla, & Demarzo, 2016). In a recently published meta-analysis on meditation based interventions that stimulate loving kindness (Galante et al., 2014), a total of 22 studies were found, showing effectiveness in reducing depressive symptoms, increasing self-compassion and dispositional mindfulness, and positive emotions. It is also worth noting, however, that there are still few studies and they lack sufficient sample size in order to draw conclusions. One of the most interesting ones is the study by Fredrickson et al. (2008), which studies the effectiveness of training in meditation based on loving kindness for promoting positive emotions within her broaden-and-build model of emotions (Fredrickson, 2001). It has proven to be a very effective tool for inducing positive emotions, thus increasing the psychological resources that in turn increase the psychological well-being.

INTEGRATING MINDFULNESS AND COMPASSION: INTERVENTIONS BASED ON MINDFULNESS AND POSITIVE PSYCHOLOGY

Recently interventions are emerging that combine mindfulness training together with positive interventions. One is Mindfulness-Based Strengths Practice (Niemiec, 2013), which links the practice of mindfulness with the training in strengths proposed by Peterson and Seligman (2004). This program includes psychoeducation, practicing strengths, reading and homework. At the theoretical level, this intervention proposal offers promising benefits both for those who practice mindfulness, and those who practice strengths training in isolation (Niemiec, 2012). Firstly, it offers individuals a way to manage and overcome obstacles that often arise during mindfulness practice (e.g., distractions or painful sensations). It provides concrete tools to broaden the perspective and deepen the practice, employing specific strengths (such as

FIGURE 1
FLOW OF COMPASSION

perseverance). It also provides the language for capturing the positive statements generated by mindfulness. It facilitates greater self-awareness and potential for change, as it provides greater clarity on one's strengths. Finally, it creates a synergy of mutual benefits that can stimulate a virtuous circle and positive upward spirals. Of particular interest is a recently-published study in which a mindfulness training course is compared to the same training plus three additional practice sessions in loving kindness and compassion, in a sample of patients in treatment for borderline personality disorder (Feliu-Soler et al., 2016), which found that the group of patients who received the support of the loving kindness sessions had higher scores on the scales that measure acceptance of the present moment.

Other mindfulness manuals are beginning to integrate exercises of positive psychology, such as the appreciation of the here and now (exercises savoring everyday activities), exercises of gratitude using all 10 fingers (remember 10 things experienced each day for which you feel grateful) and learning to take care of the self in times of stress. In the latter, individuals are asked to engage in pleasurable activities of self-care that provide a sense of mastery, satisfaction, achievement and control, and they are invited to do these activities attentively (Williams & Penman, 2011).

These practices are also being introduced in the school context. The "Happy Classrooms" program (Arguís, Bolsas, Hernández & Salvador, 2012) developed an educational program that integrates the two approaches and is aimed at students of nursery, primary and secondary education. The objective of this proposal is to enhance the personal and social development of students as well as to promote their happiness, through mindfulness training and education in personal strengths. To do so, activities and resources are provided, to work on the different areas and tutorials. This program is being implemented in over 70 education centers in Aragón as well as in various other regions and in other Spanish-speaking countries.

CONCLUSION

Throughout this article we have described the mechanisms and main characteristics by which mindfulness causes a reduction in negative symptoms and increased happiness in those who practice it. We have also discussed the differences and similarities between mindfulness and positive psychology, ultimately finding compassion to be the bond between the two types of approach. In this sense, this study has demonstrated the role of mindfulness as a catalyst of positive psychology and, even more, considers it to be the central pillar when generating upward spirals of positivity. Compassion and its consideration as a purely positive psychology technique has also been presented, due to its objective of increasing the happiness of the self and others.

However, there remains much work to be done on the integration of positive psychology and mindfulness, since there are limitations and barriers that prevent a better fit of the two approaches. On one hand, it is important to develop more sensitive measuring instruments in positive psychology, to include other positive emotions that are not being measured, such as calm, serenity or peace. On the other hand, we must continue to investigate the development of protocols of joint intervention to increase adherence and to facilitate their application in other clinical settings. At the construct level, it is necessary to continue to investigate the fundamentals and foundations of mindfulness in greater depth, in order to build a conceptual framework that enables us to distinguish clearly between what is and what is not mindfulness. Finally, it is important to conduct research on long-term meditators in order to explore the effect of intensive training on variables of positive psychology. In the future this relationship between mindfulness and positive psychology will strengthen the two, creating a middle ground of contemplative positive psychology.

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PPOSITIVE CLINICAL PSYCHOLOGY AND POSITIVE TECHNOLOGIES

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La Psicología Clínica ha avanzado notablemente en los últimos 100 años y en estos momentos disponemos ya de tratamientos psicológicos basados en la evidencia. Ahora bien, esto no es óbice para seguir mejorando esta disciplina. En los últimos 20 años se han producido dos importantes desarrollos que han resultado beneficiosos para este campo. Por una parte, lo que ha supuesto el movimiento de la Psicología Positiva y su cristalización en la Psicología Clínica Positiva. Por otra, la introducción de las Tecnologías de la Información y la Comunicación (TICs) para mejorar la práctica clínica cotidiana. En este trabajo se abordan estos avances y se presenta un nuevo campo de estudio que intenta estrechar lazos y tender puentes entre todos ellos: las Tecnologías Positivas. Se analizan las distintas posibilidades y las ventajas que este binomio puede implicar y se revisan una serie de trabajos en los que se utilizan Tecnologías Positivas.
Palabras clave: Psicología clínica positiva, Tecnologías de la información y la comunicación, Tecnologías positivas, Tratamientos psicológicos.

Clinical psychology has advanced significantly in the past hundred years, and we now have evidence-based psychological treatments. However, this does not mean that there is no room for further improvement in this discipline. In the past twenty years, two important developments have been identified as being beneficial for this field: on the one hand, the Positive psychology movement and its crystallization in the discipline of positive clinical psychology; on the other, the introduction of information and communication technologies (ICTs) to improve daily clinical practice. In this paper, we address these developments and present a new field of study that attempts to strengthen the ties and connections between them: the field of positive technologies. Furthermore, the different possibilities and advantages of this field are analyzed. In doing so, we present a number of studies in which positive technologies are used from this perspective.
Key words: Positive clinical psychology, Information and communication technologies, Positive technologies, Psychological treatments.

We have made great progress in understanding and treating mental disorders. In terms of methodology, we have to mention Pinel and his moral treatment, the approach of the psychogenic hypothesis by Freud, the contribution of phenomenology by Brentano and Husserl, and existentialism by Kierkegaard, Heidegger and Jaspers, as well as the invaluable contribution of Pavlov with his experimental work on conditioned reflexes and its subsequent influence on Russian reflexology. Other methodologies deserve special mention, such as what has been called the antechamber of behavioral therapy (Kazdin, 1978) and its implementation in the 1960s with the progress made in South Africa by Wolpe, in the United States by Skinner, and in England by Eysenck, Rachman and the whole Maudsley Hospital group. All of these forerunners laid the groundwork for the development of the current evidence-based psychological treatments, fundamental tools in the field of clinical psychology. Since then, and throughout the twentieth century, numerous studies have been conducted showing the effectiveness of certain psychological procedures for the treatment of various mental disorders. Some important authors have been Wolpe, Kelly, Lazarus, Skinner, Rachman, Marks, Beck, Seligman, Mahoney, Barlow, Salkovskis, Clark, etc., and their work has led to the consolidation of what today is called cognitive-behavioral therapy, the dominant trend and the one that has achieved the most prestige in the field of clinical psychology.

However, despite this progress, the question arises: is it possible to improve this discipline? The answer is a resounding "yes", and we will focus on this in the current paper. On the one hand, we will discuss what it has meant to take into account the contributions of positive psychology and its crystallization in what is known as positive clinical psychology (PCP). On the other, we will describe the incorporation of information and communications technology (ICT) in everyday clinical practice. Based on these developments, we present a new field of study that attempts to strengthen ties and build bridges among all of them: the field of positive technologies (PT).

POSITIVE CLINICAL PSYCHOLOGY

Since its inception, clinical psychology has focused fundamentally on the *negative*, that is, the pathological, the abnormal, problems, and disorders. Basically, it was interested in knowing what was wrong in the brains of people, in their behavior, in their relationships, and in their emotional lives. The aim was to find answers to burning issues that destroyed or deteriorated the lives of those who suffer: Why is Ana failing? Why is John feeling bad? Why does Marta hurt herself? Why does Jose mistreat others? Or why Teresa does want so badly to kill herself?

This state of affairs changed with the emergence of the movement known as positive psychology, led by Seligman in the 1990s, which has undergone a huge boom. It is necessary to recognize the merits of Seligman and his contributions to clinical psychology. On the one hand, his work on learned helplessness considerably advanced the understanding of depression (Seligman, 1972); on the other, during his presidency of the APA in 1993, the evidence-based psychological treatment movement began. Today, Seligman is leading a revolution within traditional clinical psychology, with the interest no longer focusing only on problems, weaknesses, trauma, or inferiorities. He proposes that the time has come to address, with the same scientific rigor as always and using the same methodology, pleasant emotions, growth, the ability to cope and improve, the pursuit of happiness, virtues, human potentialities, strengths, and positive character traits, among others.

Positive clinical psychology (PCP) is not intended to supplant the knowledge of traditional clinical psychology about human suffering and disorders. Its aim is to achieve a more balanced and comprehensive understanding of human experience. That is, it considers the complex set of determinants that make up this experience. If we are interested in understanding the behavior of human beings, attention should be paid to both suffering and happiness –to sadness and joy– in order to better understand how to reduce the former and to enhance the latter, because the procedures in each case are not necessarily the same (Seligman, Steen, & Peterson, 2005). There are two basic and complementary strategies for improving the human condition: to try to eliminate, improve or alleviate the negative aspects that disturb us; or, on the contrary, to try to strengthen anything that is positive. Traditional clinical psychology has generally focused on the former option, whereas PCP focuses on the latter. PCP argues that psychological treatments should not only aim to repair what is damaged or make symptoms disappear, but it should also enhance what is working well and create new conditions that prevent other problems from arising in the future (Seligman & Csikszentmihalyi, 2000). This focus is closely related to the real possibility of carrying out *prevention*. Is it possible to reinforce strengths and create the skills and competencies that can really *protect* people? In this regard, it is worth mentioning the concept of *salutogenesis* by Antonovsky,

and what this author called *the resources of generalized resistance* (Antonovsky, 1979), in relation to the importance PCP gives to certain human and social forces that act as protective factors against mental illness: bravery, *courage*, optimism, interpersonal skills, hope, honesty, perseverance, the ability to live mindfully, etc.

Although it is not feasible to thoroughly address the various research topics that have been carried out in PCP, the broaden-and-build theory by Fredrickson (1998, 2001) must be mentioned here. This theory suggests that positive emotions play an important role in evolution: they expand our intellectual, physical, and social resources, and make them more durable. They increase the reserves we can use when presented with a threat or an opportunity. Emotions such as joy, happiness, or interest expand our awareness and enhance the appearance of original thoughts. That is, *they open, expand, and help to generate reserves of psychological resources.* Over time, behavioral repertoires of mental skills and resources are developed. This is in stark contrast to the effects of negative emotions, which promote more immediate behaviors aimed at survival (e.g., the anxiety of emotion results in fight or flight behavior). Positive emotions have no immediate survival value because they do not focus on immediate needs and stressors. However, obviously, the new skills and resources promoted by positive emotions also help us in some way to enhance survival in the medium and long term. In this regard, we must also remember the contribution of Frankl in his approach to speech therapy (1967), emphasizing the importance of a *sense of humor* in helping to strengthen the capacity of *distancing* the human being from problems and negative things. In sum, it appears that, to achieve psychological well-being and promote survival, it is of the utmost importance to learn to smile, play, and enjoy oneself.

In this context, Richard Layard also wrote about happiness (Layard, 2005) shortly before proposing the approach that led to the movement of *Improving Access to Psychological Therapies*. As Layard emphasized, the most important cause of human misery in industrialized countries is not poverty, but rather mental health problems. Therefore, it is not unreasonable to think that an important way to help solve these problems is by enhancing the factors and procedures that can provide well-being, joy, and happiness. Theorists who have meditated on this, such as Bertrand Russell, have been careful to stress that happiness is not related simply to hedonism and the enjoyment of material goods. As Avia and Vázquez (2008, 2011) say, happiness includes joy, but also many other emotions, some of which are not exactly positive (e.g., commitment, struggle, challenge, and even pain); and it is also possible to be satisfied overall and not feel happy, but only experience a sense of resignation with one's lot in life. Happiness is not only about experiencing desirable affective states, but also about entertaining the idea that one is on the path towards achieving

valued objectives or goals. In sum, we are indebted to Aristotelian *eudaimonia*. This central idea urges men to live according to their *daimon*, the ideal or standard of perfection to which one aspires and which gives meaning to life. This idea is quite present in the field of psychological treatments and reflected in the writings of authors with a humanistic and existential orientation, such as Rogers, Maslow and Erikson. In some way, it is also included in what are known as the new approaches to behavioral therapy (Hayes 2004; Linehan, 1993). Recently, Csikszentmihalyi (1990) delved into the study of a concept that also has points in common with these ideas, the concept of *flow*. The experience of flow involves a set of elements: the existence of a goal that involves a challenge, concentration, control, personal involvement, and an apparent lack of effort; moreover, the self seems to vanish and time stands still.

PCP has incorporated a number of extremely innovative techniques and/or exercises, e.g., savoring, gratitude, forgiveness, kindness, the generation of positive emotions, the enhancement of optimism, strengths and psychological resources, the search for meaning, training in reminiscence, exercises of projection into the future, such as imagining the "best possible me". Moreover, many of these techniques come directly from basic experimental research (Vázquez, 2013). Examples include positive emotions (Fredrickson, Cohn, Coffey, Pek & Finkel, 2008), savoring (Quoidbach et al., 2010), forgiveness (Worthington et al., 2007), or gratitude (Emmons & McCullough, 2003). In addition, many have been tested, and there is already evidence of their effectiveness (Bolier et al, 2013; Sin & Lyubomirsky, 2009). Hopefully, in the coming years, further evidence will be accumulated to support these techniques.

In sum, PCP focuses on the scientific study of what is good or works well in people. It aims to promote well-being and happiness, and understand how factors such as optimism, love, and perseverance are generated, how originality is maintained, and how the capabilities and resources that serve to optimize life can be activated in people. In recent years, positive clinical psychology has expanded greatly, its goal being to advance the concept of health proposed by the WHO (2005): to achieve a state beyond the mere absence of disease, a state that is definable and measurable and that results in a decrease in personal and social costs and improvements in well-being and quality of life. This is an extremely exciting topic; in fact, the history of mankind is the history of coping with adversity, surviving, and continuing to enjoy every moment of the gift of life, in spite of misfortunes and loss. In this regard, a number of questions arise immediately: Why do some people survive whereas others let themselves become defeated and die (or just scrape by)? What factors affect the success or failure of the effort and glory involved in the good life? These are central topics in modern PCP, and it is what we are working on; hopefully, we will be able to find some answers.

POSITIVE TECHNOLOGIES

In recent years, ICTs have developed at an extremely rapid pace. They have entered the field of Clinical Psychology and made notable improvements in existing psychological treatments. New terms have emerged, such as e-therapy, virtual therapy, and computerized therapy. These therapies could all be included in broader terms, such as cybertherapy, which gives its name to one of the most prestigious conferences in the field (*Cybertherapy*). In all cases, they involve the use of computers as a tool to provide support or facilitate or improve the therapy in some way. Now, when speaking of cybertherapy, we have to go beyond just the computer; we must also consider the use of any new gadget or development based on ICT that can help to improve clinical psychology in general, and psychological treatments in particular (Botella, García-Palacios, Baños & Quero, 2009). Clear examples of these technologies include virtual reality, augmented reality, Internet use, and the use of mobile devices such as the strategies of ecological momentary assessment, serious games, or the use of different types of sensors. Many of these devices have already been tested in the treatment of numerous psychological disorders, and there are review studies and meta-analyses that support their efficacy and usefulness (Opris et al, 2012; Powers & Emmelkamp, 2008; Turner & Casey, 2014).

However, despite their importance so far in the field of clinical psychology, in terms of both the incorporation of the principles of positive psychology and the progress made by the new applications based on ICT, these two research areas have been separated for a long time. To resolve this situation, the proposal is to bring together technological developments and positive psychology approaches under the name of positive technologies (PT), that is, "the scientific and applied approach that uses technology to improve the quality of our personal experience with the goal of increasing our well-being and building strengths and resilience in individuals, organizations and society "(Botella, Gaggioli, Wiederhold, Alcaniz, & Baños, 2012, pp.1; Riva, Baños, Botella, Wiederhold, & Gaggioli, 2012). Therefore, not all technologies can be included under the label of PT. To be classified as PT, they must have been conceived and designed specifically to promote *well-being* and generate *resources, strengths and resilience* in human beings. Few studies to date can be included in the conceptual framework of PT; this section will discuss some of the developments that have emerged so far.

"Los Parques Emocionales" [Emotional Parks].- Our group has developed a method for inducing different mood states using VR technology (Baños, Botella, Alcaníz & Liaño, 2004). Emotional parks are VR environments that incorporate various procedures for inducing moods (PIMs) (phrases of self-referral, images, videos and film clips, music, and autobiographical memory narrative) to induce joy or relaxation. In this virtual environment, some elements change depending on

the emotional state to be induced. All of the elements (colors, light effects and intensity) have been especially designed to transmit either joy or relaxation. Thus, a PT has been created that uses PIMs through virtual reality, which contextualizes the traditional strategies of emotional induction, offering the user an experience closer to the natural one. These VR-PIMs have been tested (Baños et al., 2008) and found to be capable of promoting positive moods (joy and relaxation) and decreasing negative affect, not only in emotionally balanced people, but also in individuals with high levels of sadness after a previous experimental induction of sadness.

Butler.- Another application has been developed, also based on PIMs, virtual reality, and different web technologies (Botella et al., 2009), designed to promote hedonic and eudaimonic well-being in older people. Butler includes tools to support the elderly and their caregivers, with the objective of improving their emotional state, giving them support, strengthening their *social capital,* and improving their quality of life (Etchemendy et al., 2011). Butler is designed to be used by three types of users: elderly people, formal caregivers, and the family. In each case, the system contains specific tools and applications (e.g., "The Book of Life" to practice reminiscence, or adapted email or videoconference procedures to break the digital divide). In addition, Butler allows two formats for its use, clinical or professional and entertainment or enjoyment. Butler has been shown to improve the emotional state of elderly people, increasing their positive emotions and reducing negative ones, and it is very well accepted by the users (Baños et al, 2012, 2014; Botella et al., 2009; Castilla et al, 2012; Etchemendy et al, 2011).

Isla de la Relajación [Relaxation Island].- The Riva group (Villani & Riva, 2008) has developed a positive technology also based on VR-PIMs. This application was designed to train users in relaxation procedures and help them cope with stressful situations (e.g., exam anxiety), or simply as a virtual place of peace and tranquility for enjoyment and rest. This application has been found to reduce anxiety and increase the relaxation state of the participants (Villani & Riva, 2008). The authors note that these applications may be useful in clinical practice as controlled procedures to promote the desired objectives (in this case, relaxation).

Positive Technology Platform.- The same group (Gaggioli et al., 2014) developed a positive technology that uses a non-immersive virtual 3D world and a series of biosensors. The goal is to help users cope with stress and promote well-being. It includes three elements. The first consists of guidelines for carrying out relaxation training in a guided way. It has a series of images, videos, and music, in addition to a narrative with guided instructions for the relaxation. The user can choose from several VR environments (a beach, a field, a forest, or a mountain). The second element involves the possibility of establishing a continuous process of biofeedback

between the user and the relaxation context, using a sensor of cardiac activity and the visualization of an increase or decrease in the size of the VR environment. The third element involves the ability to monitor and record the stress levels experienced and be aware of variations in these levels over time. The platform has been shown to decrease the anxiety/stress experienced by users and increase the feeling of relaxation and well-being after the relaxation (Gaggioli et al, 2014; Serino et al, 2014.).

Live happy.- This application was developed for use with the iPhone, following the suggestions of Lyubomirsky, Dickerhoof, Boehm and Sheldon (2011). It includes eight exercises: 1) Savoring the moment, 2) Remembering happy days, 3) Journal of kindness behaviors, 4) Enhancing social relations, 5) Evaluating and monitoring goals, 6) Gratitude journal, 7) Expressing gratitude personally, and 8) Thinking optimistically. The first exercises involve savoring positive experiences by "Remembering happy days", which focuses on a personal photo album to remember good moments. The user must write a brief description of the moment experienced, trying to recover the emotions and feelings experienced. In the second exercise, "Savoring the moment," the user is asked to take a picture of something beautiful and meaningful, and write a brief review to justify the value of the image and the feelings experienced as he or she looks at it. The next set of activities includes remembering acts of kindness and an exercise to reinforce/strengthen social relations, where the user is asked to call, send a message, or email someone significant. The next activity focuses on the review and monitoring of previously established goals to verify that they are achievable, and determine whether or not the individual is on track to achieve them. Two gratitude exercises are also included. First, the person writes in the diary one thing for which s/he should be grateful. Then, s/he also expresses gratitude personally by choosing a person to whom to express his/her gratitude either by phone or in writing. In the last exercise, focused on optimism, the user is asked to think about the best future scenario s/he can imagine and write about it. This mobile app has been shown to improve the well-being of the user (Parks, Della Porta, Pierce, Zilca, & Lyubomirsky, 2012).

Psyfit.nl.- is a PT designed to promote well-being and reduce depressive symptoms. It can be entirely self-applied online with no support from the therapist. It uses different exercises and encourages the person to focus on positive experiences and resources, skills, and personal strengths, rather than on personal deficiencies or health problems. It includes six modules, each of which includes exercises that have previously been tested: 1) Establishing meaningful life goals, 2) Generating positive emotions; 3) Establishing positive relationships, 4) Living in the moment (mindfulness exercises), 5) Generating optimistic thought, and 6) Life domain and the environment. Each module includes four lessons that must be practiced for a week, and

each lesson includes a brief psychoeducation training and a practice exercise. In addition, the application includes a series of videos by experts explaining the logic of the system, a personal action plan that individuals can adjust to their needs, an online community where participants can share their experiences, and a series of evaluation questionnaires that can be completed online to monitor the participants' mood (Bolier, Haverman, & Kramer et al., 2013).

Better days.- This PT is designed to improve daily life and enhance well-being using mobile phones. It Includes 13 lessons designed to last about ten minutes and distributed over four weeks, in order for the user to learn the content and practice the exercises. In each lesson, there is a series of exercises that are quite similar to those described in other applications: gratitude, acts of kindness, optimism, coping strategies, living in the present moment, and strengths. It was recently tested in a controlled study (Drozd, Mork, Nielsen, Raeder, & Bjokli, 2014), and the results showed increases in the degree of well-being experienced by users, regardless of sex, age, or educational level.

EARTH of Well-being.- This PT is based on web technology and VR, and it includes three modules designed to work on different aspects of positive affection and hedonic and eudaimonic well-being. First, "Well-being Parks" is a variation of the emotional parks described above. Second, "Beauty in Nature" is an application that includes two VR environments with exercises to induce positive emotions (savoring, slow breathing, relaxation, and positive reminiscence). The third module is "The Book of Life", presented to the user as a digital personal journal where they can write and add videos and audios; the users can also view it as they complete it and rewrite or improve it as they wish. This module contains 16 exercises focused on the past and the future and organized into different chapters. Each exercise has a fundamental objective (e.g., to remember "A happy moment", "Somebody important in your life," "An achievement") or to visualize possible future targets in relation to oneself, friends, or work. It also includes a series of questions to help the user anchor the memory or visualize the future plan. Multimedia (videos, photos, music) can be used to personalize the Book of Life. **EARTH of Well-being** was developed under the Mars-500 project as a psychological countermeasure to help the astronauts cope with the difficulties during the simulated long trip to Mars (520 days). The data support the system's usefulness in increasing positive emotions and decreasing negative ones (Botella, Baños, Etchemendy, García-Palacios & Alcañiz, 2016). In addition, this PT has been tested on university students (Baños, Etchemendy, Farfallini et al, 2014), and cancer patients (Baños et al. 2013).

DISCUSSION

In this paper, we have briefly reviewed the contributions of positive psychology to clinical psychology and, basically, the need to pay as much attention to the positive aspects as to the negative aspects of human functioning. All of these positive factors have been shown to function as protective factors of the impact of negative events on our lives and potentially help to prevent the development of a psychological disorder (Wood & Tarrier, 2010). Therefore, it is important to study all these positive features in depth in order to generate new knowledge and design innovative interventions for the promotion of human strengths and capabilities in treating psychological problems.

Undoubtedly, we need a science that gives equal importance to the positive and negative factors and, following the same methodological approaches of traditional clinical psychology, can tell us about human potential and virtues and their effects on well-being. This science should identify which *protective* factors are indispensable for whom and when, and how they should be generated, applied, or enhanced in the most efficient and effective way possible.

It should also include the new possibilities that current ICTs provide, any other technological developments currently being developed, and those that may arise in the future. As experts in the use of these tools, we should be able to use all of these new gadgets to our advantage without losing sight of the full potential of the human being, by learning to use them to improve the future of the human species as much as possible.

As previously emphasized (Layard, 2005), contrary to what one might think, the cause of the greatest misfortunes in industrialized countries is not poverty. Mental health problems lead to greater suffering. If PCP, with its emphasis on studying and using human virtues and potential, is able to find better solutions to these problems, it should be welcomed. Hopefully this dream will come true, and in the coming years, we clinicians will be better prepared to carry out our work.

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THE ROLE OF SUBJECTIVE WELL-BEING IN MEASURING THE PROGRESS OF NATIONS AND GUIDING PUBLIC POLICY

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Los países miden su progreso basándose fundamentalmente en indicadores económicos y materiales objetivos (Producto Interno Bruto, Consumo, etc.). Sin embargo, estas medidas presentan importantes limitaciones. Adicionalmente, el excesivo foco en aspectos materiales está llevando al mundo a crisis económicas, sociales y medioambientales que están poniendo en riesgo el futuro de la humanidad. Basados en diversos trabajos previos, este artículo tiene tres objetivos. Primero, mostrar cómo las medidas subjetivas (psicológicas) de bienestar pueden complementar medidas tradicionales de progreso económico. Segundo, discutir evidencia reciente que muestra que el bienestar subjetivo puede ayudar a construir un mundo mejor. Tercero, dar a conocer ejemplos concretos de cómo el bienestar subjetivo puede ayudar la toma de decisiones en la asignación de recursos escasos, complementando las metodologías económicas tradicionales.
Palabras clave: Bienestar, Progreso económico, Recursos.

Nations assess human progress mainly through objective economic indicators of material progress (e.g., gross domestic product, consumption, etc.). However, these measures have important limitations. Moreover, the excessive focus on material aspects is leading the world to ecological, social and economic crises that are putting the future of humankind at risk. Building on previous work, this paper has three goals. First, to show how subjective measures of (psychological) well-being can complement the standard economic indicators of material progress. Second, to discuss the recent evidence which states that subjective well-being can help to build a better world. Third, to show policy examples concerning how subjective measures can help in allocating scarce resources, complementing the traditional economic methodologies.
Key words: Well-being, Material progress, Resources.

One of the main objectives of governments is to measure the well-being of their people (OECD, 2011ª, Weimann, Knabe, & Schöb, 2015). However, the first challenge is to define this construct. Economic science suggests that gross domestic product (GDP) and income is a suitable proxy, given the link that exists between income, consumption and utility (Abel & Bernanke, 1995; Weimann et al, 2015). Despite these arguments, this link has recently been questioned because assimilating well-being with income is wrong (Easterlin et al., 2010; Sachs, 2012; Stiglitz, Sen, & Fitousi, 2010). Moreover, the excessive focus on GDP and material aspects as key determinants of progress is leading humanity to an economic, social and environmental crisis, which is putting the future of the planet at risk (SDNP, 2013). Therefore, today there is growing agreement on the urgent need for new indicators that go beyond the material. In this regard, various international organizations have proposed using (psychological) indicators of subjective well-being to complement the traditional metrics, seeking to deliver a more complete figure of developing nations (Diener, Lucas, Schimmack, & Helliwell, 2009; Helliwell, Layard,

& Sachs, 2012; Layard, 2011; OECD 2011a; Stiglitz et al., 2010; UN 2011a, 2011b).

A second major objective of the states is to improve the quality of life of their inhabitants through the provision of public goods (Kaul, Conceicao, Le Goulven, & Mendoza, 2003). However, resources are limited and must be allocated efficiently. In order to do so, standard methodologies for cost-benefit analysis and cost-effectiveness are used (Cullis, Jones, & Jones, 2009). Unfortunately, these methods are not without serious limitations. For example, they are useful only when the costs and benefits can be clearly estimated in monetary terms, which is not always possible. Such is the case of health and environment sectors. Therefore, new methods of allocating resources need to be developed to guide public policies (Helliwell et al., 2012). This is why it has recently been proposed to use subjective well-being indicators to supplement the traditional methods of cost-benefit analysis (Diener et al, 2009; OECD, 2011a; Stiglitz et al, 2010; UN, 2011a). Based on several previous studies (Adler & Seligman, 2016; Diener et al, 2009; Dolan, 2008; etc.), this article has three main objectives. The aim is, first, to show how *subjective* (psychological) measures of well-being can complement traditional measures of progress. Second, the aim is to discuss how subjective well-being can help solve some of the problems facing humanity, contributing to building a better

world. And the third and final aim, is to share examples of public policies that use subjective well-being to help with decision-making in the allocation of scarce resources.

CONVENTIONAL INDICATORS OF PROGRESS

In order to monitor the well-being of nations, there are a number of physical indicators –considered to be *objective*– that address different aspects of the quality of life of a nation. In this section, we will review the most used social and economic indicators.

Social indicators

Indicators of literacy, work force participation, crime, violence and pollution (among others) are examples of social indicators that aim to assess the well-being of society. However, despite providing useful information, they have important limitations. Diener et al. (2009) mention the following. Firstly, the third-party participation in the well-being assessment criteria. For example, who decides which dimensions are to be monitored and which are the most important? Who is the person/institution best able to evaluate them by assigning them scores? How can one assign weights to each dimension?[1] Various methods have been proposed to solve these dilemmas, but definitive agreements have not been reached. So far, the decision continues to be taken by a third party who is not the direct subject of the evaluation[2]. Secondly, having an objective list of indicators implies the assumption that there is a finite set of variables to include. However, one wonders what is this finite set? Who decides on it? How much information should be collected for each variable? These questions re-open the discussion about the subjectivity of the *objective* indicators. Thirdly, cultural and ideological problems lead to the conclusion that there are other substantial differences between people and between states. Thus, national accounts may be biased and may not properly reflect the well-being of the population as they are based on averages and they assume homogeneous cultural patterns. Fourth, there may be different measurement problems present. For example, although a number of variables may seem clear conceptually (corruption, illegal economy, etc.), when it comes to measuring them complexities appear.

Most of the above limitations are due to the fact that the supposed *objective* indicators represent the values and preferences of those involved in the measurement and decision process, and they are not objective at all. Thus, so far it has not been possible to arrive at the perfect set variables, raising the urgent need to complement these traditional indicators with a different type of metric. In this regard, subjective well-being measures –which represent in greater depth how people evaluate their lives and the society in which they live– would be key. Such measures would deliver direct information from the perspective of the individual/subject of evaluation (and not the "third party"), avoiding biased outside opinions. Being able to use these indicators would enable an understanding of what people really value in life, and not what the "third party" thinks they should value. This issue is crucial for public policy (Diener et al, 2009; Helliwell et al, 2012).

Economic indicators

Countries monitor different economic variables (GDP, inflation, employment, poverty, etc.) to measure their well-being (Abel & Bernanke, 1995). Among them, GDP (Kuznets, 1934) has become the most widely used indicator. This is because economic science assumes there is a close link between income and well-being (Sachs, 2012). The central idea of this assumption lies on the assumption that individuals are rational and derive their utility from the consumption of goods and services. Therefore, to the extent that people have more economic resources (through higher GDP per capita), they will be able to allocate these to increase their consumption, which should enable them to register increases in their profit levels, and therefore their well-being (Abel & Bernanke, 1995; Sachs, 2012; Weimann et al, 2015). Recently, the income-well-being link has been strongly questioned (Easterlin, 2013; Easterlin et al, 2010; Helliwell et al, 2012; Stiglitz et al., 2010). Sachs (2012), for example, lists a number of limitations of GDP as a measure of well-being. First, human beings are not always rational. In us, there co-exist a complicated mix of emotions and rationality (Kahneman, Kahneman & Tversky, 2003). Second, higher incomes do not always lead to higher levels of well-being (Easterlin, 2013; Easterlin et al., 2010). For example, although the GDP per capita in the US is about three times higher than it was in the 1960s, the average satisfaction with life has remained almost constant over the last 50 years (Sachs, 2012). Third, the increased production has destroyed much of our natural environment, affecting our future sustainability (International Energy Agency, 2012). Fourth, placing the emphasis on the material aspects of development has brought serious consequences for humans. In fact, our high levels of materialism and consumption affect not only the mental and psychological health of the population, but they are also putting the future of the planet at risk (Dittmar, Bond, Kasser, & Hurst, 2014; Unanue, Vignoles, Dittmar, & Vansteenkiste, 2016).

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[1] The Human Development Index (HDI) assigns 1/3 weighting to each of the three variables it measures (Anand, 1994). Why assign equal weights to income, education and health?

[2] A notable development is the model of the OECD (2011a), which aims to overcome this problem by giving freedom so that the measurement of 11 indicators reflects the individual preferences of the participants, uninfluenced by third parties.

Therefore, our current development model is not only synonymous with economic progress, but it also causes various afflictions of humanity (Sachs, 2012).

Other than the above questions, GDP has several methodological limitations as a measure of well-being (Stiglitz et al, 2010; Diener et al., 2009). First, for example, when societies have large inequalities of income, GDP does not necessarily give accurate info. For example, while GDP has increased, we can see a decrease in the well-being of the majority of citizens. Let us consider the following case: only some (the richest) improved their situation, the majority worsened, and on average we are better. This is known as the tyranny of averages. Second, the objective economic indicators cannot capture specific elements that affect the quality of life of real people. For example, accounting for mining or capturing water resources –which increase the GDP– ignores the negative externalities to the environment (pollution, loss of non-renewable natural resources, etc.). Third, GDP only counts the activities of the market. Unfortunately, it does not capture activities that can affect society positively (homemaking, hobbies, volunteer work, etc.) or negatively (the illegal economy and the black market). Therefore, the well-being of citizens can be over- or under-valued. Fourth, GDP quantifies only the activities that have market prices. However, there are subjective elements that positively affect the well-being of society but are not counted (love, social capital, connection, etc.) as they do not have a monetary value that can be assigned to them. Fifth, GDP records production increases in market activities, but it does not differentiate in terms of their causes or consequences. For example, crime could lead to an increase in GDP due to the rise in prisons. Does this mean that society is better? No. On the contrary, it reflects the increase in various social problems that can adversely affect our well-being. This is in line with what the creator of GDP declared decades ago: that GDP was not created to measure prosperity. Moreover, the wealth of a nation can scarcely be inferred from its income (Adler & Seligman, in press; Kuznets, 1934).

In order to improve on the limitations of GDP mentioned above, new and modern analysis tools have been developed. Examples include the method of *revealed preferences* or *willingness to pay* (Dolan, 2008). However, these approaches are based on the same erroneous assumptions as traditional economics (rationality, the utility-well-being-income link, etc.), so they have shown similar problems in implementation (Dolan, 2008; Dolan, Peasgood, & White, 2008). This has led to an urgent call for new development indicators to complement the information provided by traditional material indicators. In this regard, various international organizations (UN, 2011a, b; OECD, 2011a), along with prestigious academics (Diener et al, 2009; Stiglitz et al, 2010) have made a clear call for the use of indicators of subjective well-being to compensate for the aforementioned gaps. It has been suggested that these subjective indicators could better guide public policy, helping to measure the true progress of nations (Diener et al, 2009; Layard, 2011; Layard et al, 2012). For example, in 2010, what was known as the Stiglitz Commission (Stiglitz et al., 2010) recommended that world statistical offices incorporate questions to capture aspects such as life satisfaction and the hedonic experiences of human beings. Following these recommendations, and the call of the Government of Bhutan, a resolution of the United Nations invited its member states to develop additional measures of progress that better capture the importance of the pursuit of happiness and well-being, with the aim of being able to guide public policy better (UN, 2011a).

SUBJECTIVE WELL-BEING: CONCEPT, DIMENSIONS AND ITS ROLE IN PUBLIC POLICY

The science of well-being and happiness has evolved considerably over the past 30 years. During this period, various conceptualizations (hedonic welfare, welfare eudaimonic, flourishing, etc.) have been proposed for this construct (Adler & Seligman, in press). In this article we focus on the concept of hedonic well-being, and particularly its most commonly used measure, subjective well-being.

Subjective well-being (Diener, 1984) is a psychological construct that reflects the extent to which individuals believe (cognitive element) and feel (affective element) that their lives are desirable, fulfilling and rewarding. It consists therefore of three core elements: life satisfaction, frequent experiences of positive emotions and frequent absence of negative emotions (Emmons & Diener, 1985). Therefore, subjective well-being is a self-report of one's own assessments of one's life, which is assessed positively when there is an overlap between one's ideals and the perceived quality of life (Diener et al., 1999).

Investigating the subjective states of human well-being is of great relevance for public policy (Diener et al, 2009; Helliwell, 2008; Helliwell & Wang, 2012). The main advantage of studying human subjectivity is that it reflects the real perceptions and feelings of individuals with regard to the quality of life they are living, without being limited to the evaluation of third parties or what governments believe is desirable for a Good Life. It is, therefore, a direct and democratic way of evaluating individual judgments, which is not captured by traditional indicators of national accounts such as GDP or others. It does not need, therefore, criteria to be established in order for third parties to weigh up the different domains of life. Subjective indicators reflect an overall assessment of the life of every human being, and the qualification that one gives one's own life carries implicit within it the weights that each individual gives to the different aspects of his life that he values. Therefore, no external judgments are needed to obtain a common metric of comparison between the different domains or between different

people. This makes subjective well-being an extremely useful construct to supplement the information provided by traditional economic indicators. Using both types of indicators, objective and subjective indicators, gives us a more complete figure of the true progress of nations (Diener et al., 2009).

Fortunately, recent research has shown consistently that subjective well-being can be measured in a valid and reliable way (Diener, 2009). In addition, the construct correlates significantly and strongly with various desirable indicators of progress and social well-being. All this has led to its usefulness being insisted upon as a tool of public policy (Helliwell & Wang, 2012), as it provides unique and valuable information for monitoring the progress of nations (Diener et al, 2009; Dolan, 2008; Helliwell et al., 2012).

TOWARDS A NEW DEVELOPMENT MODEL BASED ON WELL-BEING: THE ROLE OF SUBJECTIVE WELL-BEING

Especially during the last decades, the world has made hitherto unimaginable progress with regards to quality of life (Sachs, 2012; SNDP, 2013). However, despite this prosperity, we are living in times of great contradictions and challenges. In this sense, our current model of development based primarily on GDP and material aspects, is largely responsible for the social, economic and environmental crisis we are experiencing (Sachs, 2012; SNDP, 2013). By way of example, currently we are facing four major challenges that are putting the future of humanity at risk (Unanue, 2014a, 2014b). First, the current number of people living in poverty –on less than US $ 2 a day– has reached almost a third of the world population (World Bank, 2012). Second, inequality on the planet has reached unimaginable limits. Measured using the Gini coefficient –the indicator most used to measure inequality–, for the first time in history the richest 1% in the world possess more income than the poorest 50% of the entire world population (BBC, 2015). Unfortunately income inequality is associated with a number of social problems (homicides, trust, mental illness, child well-being, learning, etc.) with serious effects on the well-being of nations (Wilkinson & Pickett, 2011) and the traditional economy has not been able to see this. Third, economic progress has created its own set of afflictions, increasing the prevalence of mental illnesses such as depression and anxiety (OECD, 2011b; Sachs, 2012; Wickramaratne, Weissman, Leaf, & Holford, 1989). Fourth, climate change and global warming have become our greatest challenge of this current century (World Bank, 2013). Overconsumption and overproduction have played a key role in this process, causing massive environmental damage that has reduced the potential for well-being for future generations (Sachs, 2012; Unanue et al, 2016). These four dilemmas (among others) have meant urgent claims have been made not only for a new model of progress, but also new development indicators that measure the true well-being of

nations. Today we urgently need to move towards a model of sustainable development (Ki-moon, 2012; Sachs, 2012).

Recent research has shown that sustainable development is closely linked to subjective well-being (Layard, 2011; Layard, Clark & Senik, 2012; Sachs, 2012; UN, 2011a, 2011b). In fact, subjective well-being correlates significantly with various desirable indicators of individual, community, social well-being and country (Diener & Tay, 2012). For example, individuals with higher levels of subjective well-being tend to show better indicators of mental and physical health, to build more lasting and meaningful relationships, to be more cooperative, to be less prejudiced, to be more charitable and to show higher levels of prosocial-social behavior and concern for others (Adler & Seligman, in press; Diener & Tay, 2012). On the other hand, it has also been found that subjective well-being predicts environmental protection, which would help planetary sustainability (Brown & Kasser, 2005; Unanue et al, 2016).

Therefore, measuring and strengthening subjective well-being should be a central goal of public policy (UN, 2011a). On the one hand, public policies should monitor this variable constantly in order to capture information that does not collect traditional national accounts. In addition, since only "what is measured has an impact on what is done" (Stiglitz, Sen, & Fitousi, 2008, p. 4), the measurement of subjective well-being should be a crucial step in public policy. Only then can we get states decide to invest resources to improve this indicator, and thus the real quality of life of human beings. We say this, in the belief that higher levels of subjective well-being in society cannot only help combat the four major challenges that put the future of humanity at risk, but would also allow us to build a better world.

NEW METRICS FOR EFFICIENT RESOURCE ALLOCATION: POLICY EXAMPLES

As mentioned above, an important objective of governments is to improve the quality of life of their inhabitants through the provision of public goods. In order to achieve this, generally, standard methodologies of economic cost-benefit analysis or cost-effectiveness are used, to allocate the resources efficiently (Kaul et al., 2003). However, these traditional methods have significant limitations. Below, we offer four concrete examples of how measures of subjective well-being can help supplement these traditional measures.

Moral debates

The simplest way to understand the usefulness of subjective well-being as a guide for policy is to think of moral debates. For example, how should a society decide about the legalization of drugs, prostitution or abortion? Decisions are usually made by small groups who hold power. Therefore, the values and preferences of these groups are always involved, which makes the appropriateness of the methodologies questionable. In these

cases, subjective well-being could be a recommended method to fill these gaps (Adler & Seligman, in press). For example, by asking people directly about how the different alternatives could affect their subjective well-being, no third party judgments would be needed. This would be a democratic and fair way to gain valuable, desirable and powerful information for governments (Diener et al., 2009).

Social capital and trust

Economic progress can bring great benefits to the people of a country (Helliwell et al., 2012). However, when GDP increases are not accompanied by the appropriate policies, the effects can be devastating to the nations. A society may be growing positively in economic terms, but losing –inadvertently– the foundations that support it, such as trust, social capital and the *bonds of society*.

One of the most important determinants of the well-being of individuals and nations is social capital, understood as the quantity and quality of social relations that exist in a community (Layard et al., 2012). Trust (among citizens, in workplaces, of institutions, etc.) significantly affects the building of social capital, and consequently well-being (Meier & Stutzer, 2008; Powdthavee, 2008). Trust, therefore, is key to understanding why life satisfaction (the cognitive element of subjective well-being) has declined in the US and the UK, while it has improved considerably in Denmark and Italy (Layard, 2011). While levels of trust have fallen dramatically in the former nations, they have gone up in the latter ones, with consequent effects on well-being (Layard, 2011; Layard et al, 2012.). Although traditional economic indicators cannot capture these elements, indicators of subjective well-being can. Therefore, well-being appears to be a great help in giving us a more complex picture of the situation of a country (Adler & Seligman, in press; Layard et al, 2012; Stiglitz et al., 2010). Thus governments can make better decisions to reconcile economic growth with social cohesion.

Health

Resources are limited and need to be rationed through different mechanisms (Kaul et al., 2003). The health sector is no stranger to this reality. A common strategy is to allocate resources based on cost-benefit economic analysis (*revealed preferences, willingness to pay*, etc.). However, these methods have a number of limitations that until now have not been resolved (Dolan, 2008). These limitations are usually related to two factors. The first factor relates to how to decide who would be the best subject for the evaluation (the general public, medical practitioners, the sick person, etc.). The second factor relates to the fact that the preferences of the subjects to be assessed are usually not a good guide to assess future experiences due to various prediction errors (Dolan, 2008; Dolan et al., 2008). Therefore, in order to solve the problems of

the traditional methods –methods known as hypothetical decisions– it has been suggested to use more direct measures of well-being such as subjective well-being (Dolan, 2008). A simple procedure recommends asking, for example, the sick person about the current state of their health, then estimating the effects that different diseases would have on their satisfaction with life –the cognitive component of subjective well-being. Once the estimate of the loss in life satisfaction due to the disease has been calculated, it should be possible to calculate how much monetary income would be necessary for them to return to the original levels of life satisfaction without the disease. As a recommendation, if the disease can be treated for less than the said estimated amount of money, the treatment would have a net benefit to the society and the treatment should be performed (Groot & van den Brink (2007). Along with this, methods that show the greatest increase in subjective well-being –maintaining the costs constant– should be preferred. Therefore, the use of subjective well-being measures to assess the relevance of different health treatments is emerging as a modern alternative for the efficient allocation of resources.

Externalities

The production and exchange of market goods can –positively or negatively– affect people who are not directly involved in the transactions. This effect is known as externalities (Ayres & Kneese, 1969). Economists have developed several methods for evaluating and correcting them, but none of them has been perfect (Hunt & d'Arge, 1973). Suppose, for example, that a government plans to build a new airport. How should they assess the effects of noise on the quality of life of those living in the vicinity in order to compensate for them? The traditional economic approach suggests comparing prices of homes in places with different noise levels, and assuming that the price differences reflect the differences in quality of life (well-being) due to the externality. However, these approaches based on market criteria have two major limitations. First, although the market prices of most of the goods are adjusted quickly, the price of housing sometimes adjusts very slowly. Factors such as market restrictions or price controls, among others, explain this. Second, buyers can underestimate the negative effect of noise (errors in expectations), so the price differentials may not reflect the amount of noise. Purchasing decisions are based on the perceived impact rather than objective standards, which often are not known (Diener et al., 2009). Fortunately, measures of subjective well-being can be used to overcome these limitations. Van Praag and Baarsma (2004) compared self-reported indicators of satisfaction with life of people living in places with different noise levels near airports. The authors demonstrated that it is possible to calculate the monetary value of noise using the differentials in life satisfaction of those involved. This method not only provides an accurate estimate of the effect of

damage based on the method of experienced utility (Kahneman, Kahneman & Tversky, 2003), but also delivers key information about alternatives to offset the cost of an externality. To determine the amount of money needed in order to compensate for the externality, it is recommended to use the known association between income and life satisfaction (Dolan, 2008). Following the same reasoning above, Helliwell and Huang (2011) developed the method known as *compensatory differentials*. These methods can also be used to evaluate various externalities associated with the provision of goods and public services (better roads, centers for the elderly, squares and public parks, etc.) where costs and benefits are not easily captured by traditional methods or market prices (Diener et al., 2009).

LIMITATIONS

Using measures of subjective well-being has important advantages in monitoring and promoting people's well-being. However, their use is not exempt from the following limitations. First, as with the traditional indicators, these measures are of little help alone (Dolan, 2008). That is, they only make sense to the extent that they complement traditional indicators (Helliwell & Wang, 2012) because, as recognized by the OCCE (2011a), both subjective and objective indicators are important in monitoring the progress of nations (Stiglitz et al., 2010). Second, since subjective well-being indicators reflect the values and ideals of individuals, an important limitation is the possibility that the preferences are manipulated (Diener et al., 2009). For example, if less-privileged people are not aware of the better conditions of life that exist in society –they have no preferences because they do not know about them–, they would not have ratings for those states of well-being. Thus, the more privileged groups would show the same levels of well-being as the less privileged. This could be a perverse incentive for governments to decide to try to manipulate access to the information of the poorest people, which is to be avoided. Third, it has been argued that people may tend to respond strategically to surveys –manipulating their own responses– in order to influence public policy in their favor and attract the attention of governments (Diener et al, 2009). However, this concern is not only valid for public policy, but it is also a concern of research in the behavioral sciences. Therefore, researchers must estimate/study a relevant sample of the population in order to decrease the likelihood that a small number of respondents may significantly affect the results (Diener et al., 2009). Fourth, and finally, it should be noted that in this article we have focused only on the hedonic aspects of well-being, and particularly on the construct called subjective well-being. However, well-being is a broader construct that also includes eudaimonic and human flourishing elements (Adler & Seligman, in press). Therefore, public policy should also consider the use of these indicators in order to measure progress and to complement the traditional economic measures.

CONCLUSION

Countries measure economic progress based primarily on economic indicators and *objective* materials (GDP, consumption, etc.) while also using methodologies of allocating scarce resources based on cost-benefit criteria. However, this presents significant limitations in measuring and enhancing the progress of nations, which has been discussed in detail in this article. As explained above, indicators of subjective (psychological) well-being would complement traditional measures, providing a better representation of the true quality of life of individuals. These indicators would allow us to have a more complete figure of social well-being and the progress of nations, also helping the efficient allocation of resources and the building of a better world (Adler & Seligman, in press; Diener et al, 2009; Dolan, 2008).

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POSITIVE CLINICAL INTERVENTIONS: WHY ARE THEY IMPORTANT AND HOW DO THEY WORK?

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En el presente artículo se discute la Psicología Clínica Positiva como un campo emergente en la Psicología clínica. La Psicología Positiva Clínica se basa en la investigación demostrando que la salud mental es más que la ausencia de la enfermedad mental, que el bienestar tiene efectos amortiguadores sobre la incidencia de la psicopatología y de la enfermedad mental y en estudios que demuestran que las características positivas, tales como las emociones positivas y la gratitud, pueden predecir la patología más allá que el poder predictivo de las características negativas. En este trabajo, se presentan tres formas diferentes de bienestar: emocional, psicológico y social. Además, se revisan tres tipos de intervenciones clínicas positivas: terapia del bienestar, psicoterapia positiva y terapia de la aceptación y del compromiso. El trabajo finaliza con una llamada a la transformación del cuidado de la salud mental en el que los tratamientos orientados a la enfermedad se complementan con los tratamientos orientados al bienestar.
Palabras clave: Psicología positiva clínica, Bienestar, Intervenciones clínicas positivas, Salud mental.

In this paper we discuss positive clinical psychology as an emerging field within clinical psychology. Positive clinical psychology is based on research demonstrating that mental health is more than the absence of mental illness, on research showing that well-being has buffering effects on the incidence of psychopathology and mental illnesses and on studies demonstrating that positive characteristics, such as positive emotions and gratitude, can predict pathology beyond the predictive power of negative characteristics. In this paper we present three distinct forms of well-being: emotional, psychological and social. In addition we review three types of positive clinical interventions: well-being therapy, positive psychotherapy and acceptance and commitment therapy. The paper ends with a call for a transformation of mental health care in which illness oriented treatments are complemented with well-being oriented treatments.
Key words: Positive clinical psychology, Well-being, Positive clinical interventions, Mental health.

I t has been discussed that the practice and research of clinical psychology have been predominantly based on the medical model. In the twentieth century the focus of clinical psychology has been mainly on what is deviant, abnormal or maladaptive (Maddux, 2009). On the one hand, this focus has yielded numerous valuable and effective treatments of mental disorders. However, on the other hand, there is growing recognition that positive aspects of mental health have been neglected (Seligman & Csikszentmihaly, 2000) and deserve more attention in clinical psychology (e.g., Fava et al., 1998; Slade, 2010). Recently, the concept of positive clinical psychology was introduced (e.g., Wood & Tarrier, 2010). One approach within positive clinical psychology is to study how positive characteristics and functioning are related to disorders. Wood & Tarrier (2010) review various studies that demonstrate that positive characteristics, such as positive emotions and gratitude, can predict pathology beyond the predictive power of negative characteristics. A second approach is to focus on promoting mental health or well-being as an important outcome of mental

health care in addition to treatment of disorders. In this paper we focus on this second approach. We start with introducing the concept and operationalization of well-being. We then review recent studies that demonstrate that well-being and mental illness can best be seen as two related but different dimensions of mental health and we present initial evidence of the longitudinal impact of well-being on pathology. In the second part of this paper we introduce some positive clinical interventions that typically aim for promoting well-being in addition to reducing distress and pathology and review the current evidence of the effectiveness of these interventions.

WHAT IS WELL-BEING?

The World Health Organization (WHO) emphasizes to define mental health not only as the absence of mental disorder. The WHO describes mental health from a positive perspective as '*a state of well-being in which the individual realizes his or her own abilities, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to his or her community*' (WHO, 2005, p.2).

This definition by the WHO comprises three components: 1) well-being; 2) effective functioning of the individual by self-realization; and 3) effective functioning in the society. As functioning is usually studied by self-report, these three components can be referred to

as components of well-being: emotional well-being, psychological well-being, and social well-being (Keyes, 2005). These three components are theoretically and empirically interrelated, but distinguishable components of well-being. Below, we will describe the three components of well-being and the association between well-being and psychopathology.

Emotional well-being

Studies on emotional well-being derive from a fifty year long tradition of research on quality of life. In addition to more objective indicators such as income, education and health, since the 1960's subjective indicators are studied in large-scale population studies (e.g., Campbell, Converse, & Rogers, 1976). The aim of these studies was and still is monitoring the social change and improving political policies.

Since an important publication of Diener (1984) there is a consensus that emotional well-being comprises three aspects: the presence of positive affect, the absence of negative affect, and being satisfied with one's life. Sociologist Ruut Veenhoven has played a prominent role in research on happiness. His *World Database of Happiness* is a bibliography of more than 6,000 publications in this field, in which many studies on happiness in different countries are included. The database shows that in countries with a higher Gross Domestic Product, more respect for human rights, more social equality, and more individualism and freedom of choice, there is a higher level of emotional well-being (Veenhoven, 1999). Finally, individual differences play an important role. In a meta-analysis, Steel, Schmidt, & Schulz (2008) come to the conclusion that neuroticism is the strongest negative correlate to life satisfaction, and extraversion to positive affect.

In recent years, it has become clear that emotional well-being is highly important for the functioning of people. For example, Diener and Chan (2011) conclude that people with a higher emotional well-being (mainly the presence of positive affect) are healthier and live longer. Lamers et al. (2012) show in a meta-analysis of seventeen studies that emotional well-being has a positive effect on recovery and survival in people with physical diseases.

Although research on emotional well-being has a long tradition and much is known about its causes and consequences, there is also criticism on the narrow view of this ('hedonic') approach to well-being. The indicators of happiness and life satisfaction give little information on how a person develops or participates in a larger societal context (Huppert & So, 2013; Ryff, 1989). Because of these reasons, there has been considerable attention to another ('eudaimonic') approach of well-being.

Psychological well-being

The WHO definition of mental health refers to self-realization as a second important component of mental health. Self-realization is about the functioning of an individual according to normative psychological standards. It is not about having a pleasant life, but about having a meaningful and good life from a psychological point of view.

Pioneer in operationalizing this approach of mental health from a psychological perspective was Carol Ryff (Ryff, 1989; Ryff & Singer, 1996). She extensively studied the work of life span, humanistic, and clinical psychologists, searching for the core dimensions in their descriptions of optimally developed and functioning individuals. Ryff has extracted six criteria that are essential in the striving for realizing one's potential (see Table 1).

As the classical works that Ryff studied were primarily theoretical descriptions or therapeutic insights, she developed a questionnaire to measure the six dimensions of psychological well-being. Population studies using this questionnaire show that psychological well-being is systematically related to age, sex, socioeconomic status, and ethnicity (e.g., Ryff & Singer, 2008). That is, older adults on average score higher on autonomy and environmental mastery, but lower on personal growth and purpose in life than younger adults. And although there are few sex differences in psychological well-being, women score somewhat higher on positive relations with others and lower on environmental mastery than men. A higher socioeconomic status, measured as the level of education, is associated with a higher psychological well-being on all six dimensions, but mainly on purpose in life and personal growth.

TABLE 1 THE SIX DIMENSIONS OF PSYCHOLOGICAL WELL-BEING	
Psychological well-being	
Self-acceptance	Holding positive attitudes towards oneself and past life and conceding and accepting varied aspects of self.
Environmental mastery	Exhibiting the capability to manage a complex environment, and the ability to choose or manage and mould environments to one's needs.
Positive relations with others	Having warm, satisfying, trusting personal relationships and being capable of empathy and intimacy.
Personal growth	Showing insight into one's own potential, having a sense of development, and being open to new and challenging experiences.
Autonomy	Exhibiting a self-direction that is often guided by one's own socially accepted and conventional internal standards and resisting unsavory social pressures.
Purpose in life	Holding goals and beliefs that affirm one's sense of direction in life and feeling that life had a purpose and meaning.

In a recent comprehensive paper Ryff (2014) reviews many studies that support the health protective features of psychological well-being in reducing risk for disease and promoting length of life.

Social well-being

In addition to psychological well-being, social well-being is distinguished as a third well-being component. Where psychological well-being refers to the evaluation of optimal individual functioning, social well-being involves an evaluation of optimal social functioning in the society.

Corey Keyes applied a similar approach as Ryff, focusing on the work of classical sociologists and social psychologists. Keyes (1998) distinguishes five dimensions that together constitute our social well-being. These dimensions describe a person who has a positive view on other people and believes in societal progression, who understands society and participates in it, and who feels at home in society and the social groups around him or her. Similarly, Keyes developed a questionnaire to measure this component of well-being. Socioeconomic status and social-societal activities are the strongest correlates of social well-being (Keyes, 1998; Cicognani et al., 2008).

WELL-BEING AND PSYCHOPATHOLOGY

In sum, new views on well-being contain the core components of experiencing happiness, personal growth, and societal involvement. This perspective evokes the question of how well-being is related to psychological symptoms, dysfunctioning, and disorders. To measure the three components of well-being a short questionnaire, the mental health continuum – short form (MHC-SF), was developed to measure all 14 dimensions of mental health with one question per dimension (Keyes, 2002). The psychometric properties of this instrument have been found to be excellent (e.g., Lamers et al., 2011). This instrument also allowed for developing a classification model of mental health (Keyes, 2007) that distinguishes between people who are flourishing, people with moderate mental health and people who are languishing. When individuals score high on at least one dimension of emotional well-being and at least six dimensions of psychological and social well-being, they are classified as "flourishing." When individuals score low on at least one dimension of emotional well-being and at least six dimensions of psychological or social well-being, they are classified as "languishing." People who do not fit the criteria for either flourishing or languishing are classified as "moderately mentally healthy".

Keyes (2005) conducted a study on well-being and psychopathology based on the MIDUS-study (*Midlife Development in the United States*). In this study, over 3,000 Americans between the ages of 25 and 75 years filled out questionnaires on emotional, psychological, and social well-being. In addition, the presence of four of the most common mental disorders was determined with a diagnostic interview: affective disorder, generalized anxiety disorder, panic disorder, and alcohol dependence.

Based on confirmative factor analyses, the so-called 'two continua model' fitted best to the data. In this model, well-being and psychopathology are two related yet distinguishable factors. Although a higher score on well-being is related to less psychopathological symptoms, and vice versa, this relation is far from perfect. Keyes (2005) showed that ten percent of the people did not have a disorder but experienced low well-being, and that people with a disorder more often had a moderate than a low well-being.

In recent years this model has been replicated in other populations, such as American adolescents (Keyes, 2006) and Dutch adults (Lamers et al., 2011). Additional studies showed that levels of well-being are related to health care use and productivity at work, even when controlling for levels of psychopathology (Keyes, 2005; 2007). As this study was cross-sectional using one measurement occasion, no causal conclusions can be drawn.

In a study in a representative sample of the Dutch population, well-being and psychopathology were measured four times in nine months (Lamers et al., 2015). Emotional, psychological, and social well-being were measured by the MHC-SF and psychopathological symptoms were measure by the Brief Symptom Inventory (BSI; De Beurs, 2006). Both scales were moderately negatively correlated (r = -.33). In the same study, the reciprocal relation between well-being and psychopathological symptoms over time was investigated. The change in well-being in the three-month period between the measurements, was a significant predictor of psychopathological symptoms. The change in well-being was even a stronger predictor of psychopathology than the baseline level of well-being (Lamers et al, 2015). These findings corroborate the hypothesis that well-being buffers the impact of negative life-events and prevents the development of psychopathology and disorders (Keyes et al., 2011; Wood & Joseph, 2010).

POSITIVE CLINICAL INTERVENTIONS

The two-continua model, the buffering effects of well-being in general, and the adaptive impact of specific positive characteristics such as positive emotions (Garland et al., 2010), kindness (Alden & Trew, 2013), optimism (Carver et al., 2010) and gratitude (Wood et al, 2010) have important implications for clinical psychology and mental health care. A more balanced model of research and clinical practice is warranted (see also Rashid, 2009; Wood & Tarrier, 2010). Recovery should be defined as the absence of or coping with disorders ánd the presence of well-being (Fava et al. 2007;

Slade 2010). Clinical interventions should aim at reducing symptoms ánd at promoting well-being. But what positive clinical interventions are available and what is the current evidence that they work? We introduce three types of interventions: well-being therapy, positive psychotherapy and acceptance and commitment therapy.

Well-being therapy

One of the first positive clinical interventions was well-being therapy (WBT, Fava, 1999). Fava argued that recovery in treatment should not only be defined in terms of absence of symptomatology but in terms of presence of well-being as well (Fava et al., 1998). Several studies showed that clients who had been treated but relapsed and needed new treatment for depression or anxiety had substantially lower levels of psychological well-being than matched health groups (Rafanelli et al, 2000; Fava et al, 2001). The absence of psychological well-being can thus be considered a risk factor for relapse that a large group of clients experiences in the years following treatment (Labbate & Doyle, 1997; Ramana et al, 1995).

WBT consists of eight sessions of thirty to fifty minutes. It uses self-observations, journaling, and techniques from cognitive behavioural therapy and solution-focused therapy. There are three phases: monitoring periods of well-being, analysis of reasons why these periods end and intervening in these reasons. During the first phase of treatment the client is instructed to daily monitor periods of well-being and write them down in a journal, no matter how short they were. The client rates on a scale from 0 to 100 how strong the feelings of well-being were (0 = completely absent to 100 = completely present). Many clients believe that such periods are completely absent in their lives, but it often shows that they are actually there. This phase takes on average two weeks.

In the second phase, the client is asked to assess cognitions and beliefs that may stop a positive period. Fava (2003) gives the example of a client who visited his two nephews who very much liked that he came by. He felt good when he noticed that they really liked him. The cognition that disturbed this was that this was only the case because he brought presents for them. The therapist gains insight during the first two phases in which aspects of psychological well-being are mainly threatened by irrational beliefs. He or she may use the Socratic method to confront the client how irrational these beliefs are and search for more rational beliefs instead. The second phase takes about two to three weeks.

In the third phase, the therapist explores with the client how components of psychological well-being can be strengthened. The first phases have generally shown in which domains this is most desirable. The psychological well-being questionnaire (Ryff, 1989; Ryff & Keyes, 1995) may be filled out to complete the picture. Examples are planning pleasant activities,

strengthening solution-focused competencies by remembering earlier successful solutions, identifying and challenging undermining beliefs, or training assertiveness.

Several, mostly smaller studies have been carried out on the effects of WBT. For example, Fava and colleagues (1998) conducted an RCT with twenty clients who were successfully treated for mood or anxiety disorders. Ten clients received WBT and 10 clients received additional cognitive behavioural therapy (CBT). After this additional treatment, clients who received WBT had higher scores on psychological well-being (in particular on personal growth) and lower scores on depressive symptoms than clients who received additional CBT.

Fava et al. (2005) studied the effectiveness of WBT among 20 clients with generalized anxiety disorders. These clients were randomized to either four sessions CBT and four sessions WBT or to eight sessions CBT. After treatment, psychological well-being was significantly higher and psychological complaints (depression, anxiety, somatisation, hostility) were significantly lower among those who received the combination of CBT and WBT than among those who only received CBT.

WBT has recently been adapted in the Netherlands (Meulenbeek, Christenhusz & Bohlmeijer, 2015). In the adapted protocol the third phase of well-being therapy is more structured. This adapted well-being therapy is currently studies in various populations.

Positive psychotherapy

A second group of positive clinical interventions could be defined as positive psychotherapy. These interventions typically are aimed at enhancing well-being and flourishing by promoting positive characteristics and behaviour, such as positive emotions, using strengths, optimism, kindness and gratitude (Linley & Joseph, 2004).

Seligman and colleagues Seligman developed a package of short positive psychological exercises which they called 'positive psychotherapy' (Seligman e.a., 2006). These interventions are aimed at the improvement of an enjoyable, engaged and meaningful life.

Examples of these interventions are:

Using your strengths. The participant is encouraged to assess his or her personal qualities and talents with a validated strengths questionnaire. The assignment is to utilize these strengths more into daily life.

Three positive things. People are assigned to write down three positive things at the end of the day and the reason why these things happened to them.

The death notice. The participant is asked to imagine that he or she has died after a fruitful and enjoyable life. What would the relatives and people around say on the death notice? People are assigned to write a short essay on how they would like to be remembered.

Gratitude visit. In this intervention, a participant thinks of a person to whom he or she is very grateful but who was never properly thanked. The assignment is to write a letter to this person in which the gratitude is described and read this letter by phone or face-to-face.

Active/constructive responding. Participants are asked to respond at least once a day in a constructive and active way to good news from an acquaintance.

Savouring. The participant is assigned to enjoy a daily activity that he or she does normally in a hasty manner, for example eating breakfast or walking to work or school. After that, the person is asked to write what they did, how it felt and how it was different compared to doing things in a hurry.

Seligman and colleagues examined the effectiveness of positive psychotherapy in a group of students presenting mild to moderate depressive symptoms. The students were randomized across a PPT group (n = 19) and a no-treatment control group (n = 21). Students in the PPT group followed a 6-week group course. Overall, the PPT was more effective in reducing depressive symptoms and in increasing life satisfaction compared to the control group, up to the follow-up of 1 year. The effect in life satisfaction was less pronounced than the effect in depressive symptoms, as life satisfaction increased in both groups over time. The sustained effects for depression might suggest that important relapse preventive factors are imbedded in the positive exercises.

In another study, individual PPT in a format of 14 sessions was offered to students diagnosed with a major depressive disorder. The students were randomized across the PPT group and a treatment-as-usual control group. There was a third matched non-randomized group who received treatment as usual and antidepressant medication. PPT was effective in reducing depression and in enhancing happiness (but not in enhancing life satisfaction) as compared to the control groups. Effect sizes were large. However, attrition rates in the control groups were quite large, therefore these results should be considered cautiously.

Trew & Alden (2013) demonstrated that an intervention focusing on increasing acts of kindness in people with social anxiety was effective in enhancing positive affect in comparison with a group that conducted behavioral experiments or got a monitoring assignment. Santos et al (2009) reviewed several intervention studies and found that there is initial evidence that positive interventions reduce depressive symptomatology in various populations.

Positive psychotherapy has also been adapted for people with severe psychiatric disorders. The feasibility of an adapted version of group PPT for people with schizophrenia (called 'Positive Living') was examined in a small pre-post study of 16 patients (Meyer, Johnson, Parks, Iwanski, & Penn, 2012). The intervention was well accepted by the patients and associated with improvements in psychological well-being, psychological recovery, self-esteem, and psychiatric symptoms. Recently, PPT was evaluated in a randomized controlled trial for people with psychosis (Schrank et al., 2014). In an iterative process with experts an adapted version of PPT was developed, called WELLFOCUS PPT (Riches, Schrank, Rashid, & Slade, 2015). In comparison to the control group (n = 41), people in the PPT group (n = 43) showed significant psychiatric symptom reduction and well-being enhancement (on one of two measures). However, on several other measures such as self-esteem and hope (Schrank et al., 2015) no significant effects were found. The authors therefore concluded that improvements of the intervention have to be made to improve the effectiveness.

Another pre post study assessed the feasibility of positive psychological exercises in a population of patients (n = 61) hospitalized for suicidal thoughts and behaviors (Huffman et al., 2014). Significant effects were found on optimism and hopelessness, especially for a gratitude exercise, counting blessings and a personal strengths exercise (and not for a forgiveness letter). The intervention seemed quite acceptable as 85% of the participants completed at least one exercise; on the other hand a substantial number of people (n = 8) were overwhelmed by participation.

Overall, to deliver positive psychological interventions to people with severe mental disorders requires a careful and co-productive process of adaptation to their needs and preferences.

Another new development is to offer positive interventions in an online format as a public mental health strategy. In different randomized controlled trials significant effects on both well-being and distress have been found (e.g., Mitchell et. al., 2009; Bolier et al., 2014). Bolier et al (2013) also conducted a rigorous meta-analysis to assess the effects of positive psychology interventions on emotional and psychological well-being and depression. The interventions included self-help, group and individual therapeutic formats. Small but significant overall effect-sizes were found across the studies for all three outcomes.

Acceptance and commitment therapy

A third therapeutic approach that fits well with a mental health promotion framework is Acceptance and Commitment Therapy (ACT). ACT has been defined as a distinctive model of behavioral and cognitive therapy with a strong focus on the context of behavior (Hayes et al., 2013). It is based on a relational frame model that links behavioral principles to both pathology and flourishing (Ciarrochi & Kashdan, 2013; Hayes et al., 2013). "The aim of ACT is, quite simply, to maximize human potential for a rich, full and meaningful life" (Ciarrochi & Kashdan, p. 2). Experiential acceptance or mindfulness is a core process within ACT and has been found to relate to well-being (Carmody & Baer, 2008). Additionally, promoting

valued or engaged living is a primary focus of ACT. Commitment to choices and goals based upon intrinsic values and motivations has been found to predict well-being (Ryan & Deci, 2000; Steger et al., 2013). The capacity to live mindfully or accept present experiences and to act in accordance with one's core values has been defined as psychological flexibility (Ciarrochi & Kashdan, 2013; Hayes et al., 2013). Randomized controlled trials have shown the efficacy of ACT as a treatment of distress (e.g., Bohlmeijer et al., 2010; Trompetter et al., 2014) and as an intervention that enhances well-being (Fledderus et al., 2011, 2012). Bohlmeijer et al (2015) conducted a post-analysis on an earlier randomized controlled trial of a sample of adults with depressive symptomatology who participated in a guided self-help ACT intervention. This post-analysis showed a 5% to 28% increase of flourishing by the participants. In addition, the effects on flourishing were maintained at the three-month follow-up. The participants in the waiting-list control group, increased from 5% to about 14% flourishing after nine weeks.

CONCLUSION

We conclude that positive clinical psychology is an interesting and promising new approach for both practice and research. We have presented research that underscores the need for a redesign of mental health care. A more balanced mental health care is warranted in which illness oriented treatments and assessments are complemented with well-being oriented treatments and assessments. A good step forward would be to implement a well-being measure in the routine outcome monitoring of mental health care. At the same time we must recognize that positive clinical psychology still is a new field. Epidemiological studies investigating the relationship between psychopathology and well-being over time are still scarce. More high quality studies on the effects of positive clinical interventions are needed. For the practitioner the complete mental health model broadens the scope of interventions. In our collaboration with psychologists and psychotherapists in mental health care we have experienced that applying positive psychology interventions can be rewarding for both client and therapist.

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THE LIMITS OF POSITIVE INTERVENTIONS

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Las intervenciones positivas han tenido un amplio desarrollo en los últimos años, y ya se están evaluando y aplicando en muy distintos campos. A pesar de que la gran mayoría de los resultados disponibles en relación a su eficacia se pueden considerar buenos o muy buenos, no se puede descartar la posibilidad de que en algunos casos concretos algunas intervenciones puedan tener efectos inesperados e incluso contraproducentes. En este artículo se revisará investigación procedente de distintas fuentes para poder informar adecuadamente sobre qué intervenciones pueden ser inapropiadas para personas con ciertas características o rasgos de vulnerabilidad. Finalmente, se hace una reflexión sobre la importancia de que las intervenciones positivas sean llevadas a cabo con el máximo cuidado y rigor incluso en personas que no presentan problemas ni trastornos psicológicos manifiestos.
Palabras clave: Psicología positiva, Fortalezas, Intervenciones positivas, Emociones positivas, Efectos adversos.

Positive interventions have been developed extensively in recent years and they have been tested and applied in very diverse settings. Despite the fact that most of the findings regarding their efficacy can be considered from positive to very positive, the possibility that, in some cases, positive interventions may have unexpected or even iatrogenic effects cannot be discarded. In this article, research from several sources is reviewed in order to inform decisions about what interventions might be inadequate for cases with specific characteristics or vulnerability traits. Finally, the importance of using positive interventions with caution and rigor even when working with individuals who do not have overt problems or psychological disorders is discussed.
Key words: Positive psychology, Strengths, Positive interventions, Positive emotions, Adverse effects

Positive psychology has undergone significant development in its short life. The existence of a significant gap in the research on many positive research topics initially attracted the attention of many academics, who understood that being involved in addressing these issues should be a priority (Seligman & Csikszentmihalyi, 2000). Later, the first results of basic and applied research on the effects of positive interventions amplified this interest (Vázquez, Hervás, & Ho, 2006), which became widespread not only among academics and researchers, but also a good number of practitioners and even in the general population (Hervás, 2009).

In recent years, the research on positive interventions has increased considerably, and the results could be said to be better than expected (see review in Bolier et al., 2013). The fact that several positive interventions, in many cases very short ones (i.e., one week), have positive effects on well-being and depressive symptoms sometimes up to 6 months after completion of the intervention is nothing less than astonishing. Obviously the process of refinement of these interventions as well as the understanding of the mechanisms of change is still in progress,

so it is possible that the results may improve further in the coming years. In the same vein, to the extent that the application of more complete positive intervention packages (e.g., Chaves, López-Gómez, Hervás, & Vázquez, 2016) becomes widespread, it may reach a higher degree of transformation and, therefore, the improvement found would be expected to be more durable.

These promising results, however, should not be an excuse to apply these techniques indiscriminately or carelessly. We know from previous research that psychological interventions, in general, can be harmful in certain contexts, particularly in some unusual modalities (Lilienfeld, 2007). Given the absence of external institutions that can assess the adverse effects of psychological treatments –which do however exist in the drug approval process–, a greater awareness of this issue in psychology is especially important, beyond the known recommendations of the ethical code (e.g., COP, 1987). For example, in a recent survey in the UK, about 5% of respondents reported having suffered adverse effects after psychological intervention (Crawford et al., 2016). Thus, this is a very relevant issue today, not only for positive psychology, but for the field of psychological interventions in general (see Barlow, 2010).

In this article we focus on the possible existence of limits in positive psychology interventions. Specifically, the question is this: is it possible that some components or interventions, which fundamentally appear to be linked in the research to positive results, can at certain levels or in certain circumstances cause adverse effects? Therefore, in this article, we will describe some

data that we already have available that can help guide research and practice in a more balanced direction. Without claiming to be exhaustive, we will review interventions within positive psychology that have received the most attention and for which direct or indirect data are available concerning the existence of limits in their application.

THE BENEFITS OF POSITIVE EMOTIONS

The concept of positive emotions comes from studies on the circumplex model of affect (Russell, 1980), and the name came about because when we analyze how emotions tend to cluster from an empirical point of view, the most important factor of variation is to distinguish those that are subjectively pleasing (i.e., positive emotions) from those that are unpleasant (i.e., negative emotions). The research on positive emotions accelerated considerably after the appearance of positive psychology, and one of the milestones that marked its development was the emergence of the theory of broaden and build (Fredrickson, 2001). This theory, which we will not cover in detail here for reasons of space, posits that positive emotions have enormous value due to the possibilities of adaptation and development that they provide, which explains why they have persisted as part of our response repertoire over the course of evolution. The research on the beneficial effects of positive emotional states, which began with the studies of Alice Isen in the 1970s, has been quite consistent with these initial hypotheses. The conclusion of the numerous investigations (both longitudinal and experimental, not only correlational) is very clear: in the general population, the effect of positive emotions has important benefits for psychological and even physical functioning. Again, it is a very broad topic to cover here, but it could be summarized by saying that positive emotions, in addition to better health (e.g., Presman & Cohen, 2005; Vázquez, Hervás, Rahona, & Gómez, 2009), promote significant advantages at the interpersonal, cognitive, and emotional-motivational levels (e.g., Fredrickson, 1998; Lyubomirsky, King, & Diener, 2005) as well as in different contexts, such as the academic (e.g., King, McInerney, Ganotice, & Villarosa, 2015) or work contexts (e.g., Coté, 2014; Meneghel, Salanova, & Martínez, 2014). Finally, the increase in the evaluation of interventions focused on increasing positive emotions in recent years has allowed us to observe, experimentally, these effects with greater external validity (Parks & Schueller, 2014).

That said, and before addressing the possible limits of positive emotions, there are two important aspects that should be clarified. The first clarification concerns the fact that when we say that, in general, positive emotions generate beneficial effects, it does not mean that negative emotions do not have them as well. The emphasis on the value of positive emotions has emerged because, until recently, these emotions were considered a minor player in psychological functioning and were given little adaptive value. The novelty has been the discovery that this is not the case and that, on the contrary, it is very relevant to have an adequate level of positive emotionality. The essential adaptive value of negative emotions (i.e., unpleasant ones) is something that has been assumed by psychology for decades, and previously in other disciplines that considered and expanded the studies and theories of Charles Darwin. Therefore, highlighting the utility of positive emotions does not mean endorsing the idea that negative emotions are useless or harmful at all. This is an idea that, probably because it is so widespread, is rarely explicit in the context of the study of positive emotions.

Secondly, we must say that positive emotions do not produce advantages in all contexts. For example, in contexts in which threats are frequent and reacting quickly to them is important, experiencing positive emotions could be a disadvantage (e.g., Ford et al., 2010). The same holds true for other contexts, such as those where we do not want stereotypes to occur (Unkelbach, Forgas, & Denson, 2008), or where a very analytical processing of the necessary information is needed, in which the use of heuristics is avoided (see review by Bless & Fiedler, 2006), among others (see Forgas, 2013). Investigating these particular situations where positive emotions can be an impediment to full adaptation is important in order to be able to understand in which circumstances it may be useful to regulate positive emotions, beyond the most obvious social situations (e.g., Erber & Erber, 2000).

In any case, these particular results should not be used to conceal or minimize the results to a more general level that solidly supports the idea that people who have a high frequency of positive emotions in general show better functioning at all levels studied (e.g., Lyubomirsky et al, 2005). Again, this does not mean that it is impossible to have a high level of functioning with a moderately low level of positive emotionality, since the results show tendencies at the group level not at the individual level. Nor can it be deduced from these studies that to be cheerful is "mandatory" or that positive emotionality is prescribed as a necessary and sufficient condition for mental health (see Vázquez, 2013).

CAN POSITIVE EMOTIONS BECOME EXCESSIVE?

Just as negative emotions can be beneficial in some cases and detrimental in others, we should ask an equivalent question in relation to positive emotions (Oros, 2015). Although the research is far from complete, the data we have suggest that the answer is yes, positive emotions can become harmful. Below we discuss the various aspects of this phenomenon.

First, we must analyze whether positive emotions can be excessive, taking into account two basic dimensions of emotions: intensity and frequency. Thus, the question is this: can positive

emotions reach an excessive level of intensity or frequency?

In terms of intensity, there is evidence that a very high intensity/reactivity in relation to positive emotions seems to be associated with poorer life satisfaction (e.g., Diener, Sandvik, & Pavot, 1991), and it even appears to be a marker of vulnerability to mania (Johnson, 2005; Meyer, Johnson, & Winters, 2001; Gruber, 2011). Therefore, in the case of intensity, it could be said that there is an inverted U effect, that is, that very low or very high levels of intensity in positive emotions are associated with worse adaptation in comparison with a moderate level (Diener et al., 1991).

As for the frequency, the results also suggest that the potential benefits associated with greater or lesser frequency of positive emotionality could also form an inverted U, although as we shall see, with regards to the pole of high frequency, it is not so clear that it is maladaptive as seems to be the case with intensity.

Most of the available evidence we will review here refers to the rate of positive versus negative emotions. What is observed is that, beyond the fact that there is no magic number to describe when this rate produces an accelerated increase in its benefits (Brown, Sokal, & Friedman, 2013), the results confirm that lower rates –the same or fewer negative emotions than positive ones– are associated with negative results (e.g., Schwartz et al., 2002), intermediate rates between two and four positive emotions for every negative emotion show the best results of adaptation (Diehl, Hay, & Berg, 2011; Kolanowski, Van Haitsma, Meeks, & Litaker, 2014; Trute, Benzies, Worthington, Reddon, & Moore, 2010). And finally, there is also evidence that excessively high rates of positive versus negative emotions may not be associated with improved adaptation, or they may even be slightly maladaptive. And this has been observed in both healthy adults (Rego, Sousa, Marques, & Cunha, 2012) and more clearly in people under stress and adversity (Shrira et al., 2011). Bearing in mind that other studies have not found this negative effect in participants who had higher rates of positive emotionality (e.g., Diehl et al., 2011), together with the absence of longitudinal studies that show the adverse effect prospectively, we must conclude that it is early to say that a high frequency of positive emotions may have drawbacks. The wisest option would therefore be to wait to have further studies. In addition, as observed by Fredrickson (2013), the way positive and negative emotions are measured is slightly different in each study, which could affect the result obtained in relation to the optimal rate and the point from which a high rate is associated with maladaptive outcomes.

It also should be noted that the adverse effect that may be found when the rate of positive vs. negative emotions is high may be due, not so much to the frequency of positive emotions being abnormally high, but rather to an extremely low frequency of negative emotions (Fredrickson, 2013; Shrira et al., 2011), which may reflect in reality a problem of artificial inhibition of negative emotionality rather than an excess of positive emotions.

Therefore, it seems clear that there is a potential adverse effect in the presence of positive emotions of great intensity, and less likely, although it should not be ruled out, an adverse effect to a disproportionate frequency of positive emotions versus negative ones.

ARE THERE POPULATIONS IN WHICH INCREASED POSITIVE EMOCIONALITY COULD BE HARMFUL?

Regardless of whether there may be harmful degrees of positive emotionality, a related aspect but with different implications is to ask whether there are specific populations, especially in the clinical field, in which an intervention to increase positive emotions may not be indicated.

Firstly, we know that the activation of positive emotions when they are produced by achieving a goal can increase the likelihood of suffering a manic episode (Johnson, 2005). Therefore, training that focuses the attention on the positive emotional aspects could speed up the process, especially if the training is done in the absence of other types of intervention that help the person to detect and take action when a mood begins to be dysregulated toward the positive. Therefore probably the clearest case in which extreme caution should be exercised with positive interventions, if they are not outright discouraged, is when a vulnerability to mania can be anticipated, either due to the family history or the presence of hypomanic episodes in the past, a phenomenon that could have gone unnoticed by the individual. A question for future research would be to analyze whether interventions that are more focused on variables of eudaimonic well-being (e.g., competence or life meaning) or that promote low arousal positive emotions might be more suitable for these patients.

A recent study may enable us to better understand the potential impact of a positive intervention. Hervás and Sánchez (2016) examined the effect on motivational level that an intervention to activate a positive mood could have in comparison with an intervention to activate a sad mood (and in comparison with a neutral intervention). The dependent variables were sensitivity to reward and to punishment, which are, in other words, indicators of the level of functioning of the base activation system (BAS) and behavioral inhibition system (BIS), respectively. Although the original theory of Gray (1987) has been refined in recent years (Gray & McNaughton, 2000), analyzing the sensitivity to reward and punishment is a simple and useful way to evaluate the basic motivational processes of an individual. In this case, the aim was not to assess the characteristic level of each individual (i.e., personality), but the temporal variations on the base line of each individual. Therefore, for this purpose a state measure was employed for assessing the two constructs (see

Hervás & Vázquez, 2013). The results of this study showed that the increase in negative affect reduced the sensitivity to reward, leaving the sensitivity to punishment unchanged; and most importantly, the increase in positive affect reduced the sensitivity to punishment, not changing the sensitivity to reward. In short, an intervention to increase positive emotionality may, consistent with previous research (Ford et al., 2010), partially deactivate the behavioral inhibition system and therefore the sensitivity to punishment.

The preliminary conclusion, regarding its suitability in certain clinical groups, is that a positive intervention could be very helpful for depression since the increase in positive affect could offset the decline previously produced by the anhedonia (i.e., chronic low sensitivity to reward) and, at the same time, it reduces sensitivity to punishment which, in the case of depressive patients, seems to be associated with a greater tendency towards rumination (e.g., Hervás & Vázquez, 2011). Furthermore, these results suggest that an intervention to increase the positive emotions also may be indicated for anxiety problems, since the sensitivity to punishment is a key element in activating the alarm system, and the inhibition traits in personality are associated with the development of anxiety disorders (e.g., Degnan & Fox, 2007).

In which cases might positive interventions not be indicated? Although, as we said, further research is needed, we should exercise caution in those cases in which a reduced sensitivity to punishment may aggravate a previous problem. For example, in certain conditions a sensitivity to punishment is usually found to be already reduced, and this reduction sometimes appears associated directly or indirectly with some of its most important symptoms.

Bearing in mind the review by Bijttebier, Beck, Claes, and Vandereycken (2010) on BIS/BAS patterns in different psychopathological conditions, we could anticipate that, aside from bipolar disorders, positive emotions could have potential adverse effects on people with impulsivity problems –who present a component of reduced sensitivity to punishment–, in people with attention deficit hyperactivity disorder (ADHD) and, lastly, in people with antisocial personality disorder.

Regarding the first point, detecting problems of impulsivity associated with profiles of high sensation seeking (e.g., Braddock et al., 2011) or substance abuse conditions (e.g., Franken & Muris, 2006) could be an important key to ruling out intervention focused on positive emotions. Caution should be exercised in those cases where these problems arise associated with a high level of positive urgency, a concept that refers to the tendency to activate impulsive behaviors in response to intense positive emotional states (Cyders et al., 2007). A similar phenomenon has been observed in certain profiles of eating disorders, where preliminary evidence has been collected to suggest that not only negative emotions, but also positive ones could be activating dysregulated eating behaviors (e.g., Bongers, Jansen, Houben, & Roefs, 2013).

Due to its prevalence, the case of ADHD also deserves some additional comments. Recent studies agree that patients with this condition tend to show problems regulating, not only negative emotions, but also positive ones (Sjöwall, Roth, Lindqvist, & Thorell, 2013). This, coupled with the problems these patients have in inhibiting their behavior appropriately, which seems partly due to a reduced sensitivity to punishment (e.g., Quay, 1997), seems to discourage, a priori, an intervention based on positive emotions. In these cases, it might be more suitable to apply interventions based on the promotion of mindfulness, as these interventions can also stimulate positive emotions in the long term (e.g., Garland, Geschwind, Peeters, & Wichers, 2015), and there already exists positive evidence of their efficacy in this population (e.g., Schoenberg et al., 2014).

Finally, although the problems associated with an increase in positive emotionality in people with antisocial personality disorder are not easy to predict, what can be anticipated based on the available evidence is that the most vulnerable profile would be that referred to as primary psychopathy, due to its low level of sensitivity to punishment (Newman, MacCoon, Vaughn, & Sadeh, 2005). In this case, rather than implementing programs of positive emotions, in general, training in specific positive emotions –such as compassion– could be applied, which could have a more direct effect on the core of the disorder (see Holthouser & Bui, 2015).

From all of the review work carried out, we can draw two main conclusions: (a) positive interventions focused on the emotions should preferably focus on increasing the frequency of positive affect, rather than increasing its intensity, taking care to see that negative emotionality is not inhibited in parallel, and (b) it is important to remember that, although for most people and situations an increase in the frequency of positive emotions can bring significant benefits, there may be specific situations in which implementing a program of increased positive emotionality would not be indicated either because the context means it is not recommended (e.g., frequent threats or a very frequent need to activate cognitive analytical processing), or because certain elements of vulnerability present in the individual (mainly mania, hyperactivity and impulsiveness) could interact negatively with increased positive affect.

CAN PERSONAL STRENGTHS BECOME EXCESSIVE?

With regards to intervention on strengths, there are fewer studies available regarding the potential contraindications so it is not possible to formulate such specific recommendations. In any case, there are results available that may be of interest in achieving improved implementation of these interventions. For example, could it happen that a person who has a particular strength –such as courage or optimism– could, due to putting it

into practice more often, as discussed in some interventions, suffer some kind of adverse effect? Although, based on the data that we have, we cannot be sure that this can occur, the truth is that some strengths can be expressed in such high intensity that it might have negative implications for the individual or for other people. Whether or not these negative consequences occur will depend on factors such as context, and the presence of other personality traits that may modulate the impact of the strength.

Grant and Schwartz (2011) reviewed the available evidence on the extent to which having a positive trait to an extreme degree can become harmful. For example, optimism, self-control or generosity, when manifested excessively, can generate problems or disadvantages. For example, very high optimism appears to be associated in some studies to smoking more, to lower savings, or paying one's credit card late (e.g., Puri & Robinson, 2007); self-control, when it becomes too intense and rigid, has been associated with numerous clinical and other problems (e.g., Tangney et al., 2004). Generosity, when excessive, also called pathological altruism (e.g., Oakley, 2013), may be associated with problems for oneself (McGrath & Oakley, 2012) or, in some cases, for others who may receive help they did not ask for and/or which is damaging to them (e.g., Locke, Campbell, & Kavanagh, 2012).

These are some examples, but many others could be added that simply reaffirm the proposal of the middle way or the Aristotelian midpoint, which long ago anticipated a reality that can now be demonstrated with data: a virtue can be a problem when it is lacking in a person, but it can also be a problem when it is demonstrated in excess (Grant & Schwartz, 2011). Again, an inverted-U effect.

Considering these aspects when applying strengths-based interventions is therefore very relevant. It would be inadvisable to implement a strengths-based intervention indiscriminately without encouraging in participants a minimum analysis of the potential consequences, as well as an assessment of what is the point of balance for each of the contexts in which it is to be applied. Sometimes the point of balance depends on other complementary skills being cultivated, such as when a person with the strength of courage must develop specific social skills so that the behaviors associated with courage (e.g., denouncing an unfair situation) are implemented in an adaptive way. Although these considerations did not appear in the first formulations, the latest manualized programs of positive psychotherapy specifically anticipate the importance of working on the strengths maintaining this balanced perspective (e.g., Chaves et al, 2016; Rashid, 2015).

Apart from the question of balance, we must not forget that working with personal strengths involves implementing, sometimes after a long period of abandonment, emotional traits with very important implications. By definition, strengths are not typical positive traits, but rather they are perceived as intrinsic traits, which implies an important connection with the identity and the motivational mechanisms of the individual (e.g., Sheldon & Elliot, 1999). Raising awareness of these roots and aligning one's individual goals with them within a coherent project is undoubtedly one of the great added values of working on strengths. But precisely because of that privileged connection, a negative experience in the application of a strength may have a damaging impact with equally profound implications for the identity and self-esteem. Although it is most common that when these "damaged or ambivalent strengths" manifest (a phenomenon yet to be studied), they are a consequence of the individual's life history, it is not ruled out that malpractice in the context of a positive intervention can also trigger them.

CONCLUSIONS

The results presented in the previous sections, which highlight the potential adverse effects of certain positive interventions for certain people or at certain times, should not detract from the wealth of resources and interventions developed within the framework of positive psychology. Although it may be difficult to understand or accept for some academics and practitioners, positive interventions are a set of extremely innovative interventions with enormous potential to be combined with other interventions (e.g., Chaves et al., 2016).

This view is not incompatible with recognizing that positive interventions must be applied with great care because, like any other psychological intervention, they may have contraindications or adverse effects (Barlow, 2010). It could be interpreted that making suggestions on the indication or otherwise of certain positive interventions based primarily on indirect evidence, could be challenging the idea that "if it ain't broken, don't fix it". Should we wait to have specific data from the contraindications in order to establish these warnings? If there is indirect evidence to suggest that an intervention may cause harm, it would be best to take the most prudent option, even in people without mental health problems. In fact, carrying out interventions on people with an adequate level of mental health also involves a very high degree of responsibility that we must not ignore (Parks & Biswas-Diener, 2013). Naturally, this last thought should be applied not only to positive interventions but also to any psychological intervention performed in the healthy population.

Although positive interventions may seem simple to apply, the fact is that, in certain cases, they may require a high level of expertise by practitioners. The works reviewed in this article also show that a practitioner who is not capable of detecting traits of vulnerability to mania or impulsiveness may be far more likely to implement an iatrogenic intervention. Therefore, it would be pertinent to ask whether practitioners without prior training in psychology should apply these techniques while working with people who are (apparently) healthy. After this review, the

answer would probably be no. In fact, beyond the possibility of an iatrogenic intervention, there is a fact that is often forgotten: positive psychology, whether in its theories or its applications, becomes seriously distorted if it is isolated and situated outside the framework of the rest of psychology. For example, as pointed out above, the new findings on positive emotions must be integrated with what is already known about the adaptive role (or the maladaptive role, as the case may be) of negative emotions. This is something that any psychologist knows, but someone who has not received this basic training could miss it.

As reflected in this monograph, many scholars and practitioners consider that positive psychology is contributing – apart from the understandable misinterpretations, self-interested exaggerations or occasional mistakes– ingredients and advances of enormous importance both at the theoretical and applied levels. Especially in this area, and beyond the purely ethical aspects, we must remember the maxim of Aristotle's middle way, which in this context might suggest that in addition to continuing to work with the utmost enthusiasm, we always do so based on evenness and prudence.

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POSITIVE EDUCATION:
EDUCATING FOR ACADEMIC SUCCESS AND FOR A FULFILLING LIFE

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La educación tradicional se ha centrado en transmitir las herramientas necesarias para el éxito académico y profesional del individuo, y el progreso del alumno se mide de acuerdo con su desempeño dentro de este paradigma limitado del éxito. Varias décadas de investigación rigurosa internacional nos han demostrado que existen herramientas para generar los elementos del bienestar, y que estas se pueden enseñar y aprender. Más aún, estas herramientas se deben enseñar, ya que el bienestar tiene valor intrínseco (el ser humano innatamente desea la felicidad) y valor instrumental (la felicidad genera beneficios como salud física, éxito profesional y personal, mejores relaciones con otros, y menor violencia y consumo de drogas entre adolescentes, entre otros). Utilizando métodos del máximo rigor científico, la educación positiva enseña las herramientas y el conocimiento que el individuo necesita para tener una vida académica y profesional exitosa, así como para florecer como ser humano y tener una vida plena.
Palabras clave: Éxito académico, Bienestar, Vida plena.

Traditional education has focused on teaching individuals the tools to succeed academically and professionally, and students' progress has been measured according to their performance within this limited paradigm of success. Various decades of rigorous international research have shown that skills exist for building the elements of well-being, and that these can be taught and learned. Furthermore, these skills should be taught, since well-being has both intrinsic value (human beings innately desire well-being) as well as instrumental value (well-being generates desirable life outcomes, including physical health, professional and academic success, better relationships with others, less violence and drug consumption, among others). Based on the most rigorous scientific research, positive education teaches the skills and knowledge that individuals need to have successful academic and professional lives, as well as to flourish as human beings and live a fulfilling life.
Key words: Academic achievement, Well-being, Life satisfaction.

Education transforms the human being. Through the transfer of knowledge and skills, education changes the individual from their present state to a different future state. Therefore, education involves the changing and growth of individuals in a certain direction. The important question, when addressing the issue of education is this: in what direction do we want to transform the individual cognitively and emotionally during their educational process? In other words, what it is the purpose of education and what can and should be its goal?

Common sense, along with more rigorous studies in fields such as positive psychology, tells us that overall well-being is a fundamental goal in human life, and arguably the most important. However, regardless of ideologies or moral beliefs, it is undeniable that we live during a time when progress is measured largely based on the accumulation of money and material goods, from individual success to the level of national development. The vast majority of current educational systems reflect this conception of progress in the way they prepare the individual, especially during their most formative years: childhood and adolescence.

Education systems try to prepare students for productive lives, but they do not provide them with the tools to have healthy and fulfilling lives with meaning and purpose.

Positive psychology recognizes that economics is an essential engine for the functioning of our society, and that it is necessary to prepare human beings in order for this economy to prosper in a sustainable and egalitarian way. Nonetheless, positive psychology also recognizes that it must be economics that is at the service of the individual, not the other way around. Thus, education must provide learners with the knowledge and tools to have both a fulfilling and a productive life. Well-being is not a threat to economic progress; on the contrary, it is a complement that amplifies the productivity of the individual throughout his life, which in turn increases his life satisfaction. There is extensive research that shows that well-being contributes significantly and positively to physical health, creativity, productivity, innovation, and social relations (Howell, Kem, & Lyubomirsky, 2007; Lyubomirsky, King, & Diener, 2005; Pressman & Cohen, 2005). Therefore, an educational system that promotes the well-being of students and their community, while promoting traditional economic progress at the same time, will give individuals the skills to enjoy productive and fulfilling lives. This is the foundation of positive education.

The intersection of positive psychology with education presents us with a simple and fundamental question: educating for what? Positive education answers this question using decades of scientific studies and millennial wisdom based on contemplation and reasoning: educating for the general fulfillment that human beings innately desire, regardless of their culture or epoch. After years of rigorous research on the skills for well-being, positive education empirically postulates that well-being *can* be taught and learned. Moreover, positive education proposes that, due to its intrinsic value and its instrumental value (the positive effects of well-being), the tools and knowledge of well-being *should* be taught.

POSITIVE PSYCHOLOGY AND EDUCATION

Positive psychology is the scientific study of the strengths and virtues that enable human beings, their organizations, and their communities to flourish. One of the strongest criticisms of positive psychology comes from the misperception that this discipline studies only the positive emotions. Caused in part by the media and books of pop culture that focus only on increasing positive emotions, positive psychology is often considered a "new age" movement, separate from fields with scientific rigor such as physics or biology. In her book *The Science of Happiness*, Lyubomirsky (2007) clearly describes positive psychology's commitment to rigorous science.

> "First, the compass of the science of happiness is science, and happiness –increasing the strategies that other social psychologists and I have developed– is its key support element. My story is that of a research scientist, not a doctor, a life coach, or a self-help guru... The science of happiness is unlike many self-help books to the extent that it represents a synthesis of what researchers of the science of happiness, including myself, have found in their empirical research. Every suggestion I offer is supported by scientific research".

Undeniably, one of positive psychology's multiple goals is to increase individual happiness, which involves the person having positive emotions more frequently and negative ones less frequently. Although one of the pillars of positive psychology is the positive emotions, as a number of empirical studies have been conducted over the last two decades, positive psychology has evolved and its understanding of well-being and happiness have been refined. Well-being is now conceived not only as positive emotions, but also as enjoying multi-faceted flourishing in many areas of life and the human experience (Diener, Scollon, & Lucas, 2003).

Ryff (1995), one of the first to propose a multidimensional understanding of well-being, proposes a model with six components of well-being (self-acceptance, positive relations with others, autonomy, environmental mastery, purpose in life, and personal growth). At the social level, Gallup has created the *Healthways Well-Being Index*, which includes variables such as life evaluation, emotional health, physical health, healthy habits, work environment, and basic access (Kahneman & Deaton, 2010). The Organisation for Economic Co-operation and Development (OECD) has created the *Better Life Index*, composed of 11 themes that are considered essential to quality of life (housing, income, work, community, education, environment, government, health, life satisfaction, safety, and work-life balance). The index allows each country to identify the most important subjects to them (Kerényi, 2011).

Analogous to these models and focusing on adults, Seligman (2011) more recently suggests a five-part model of human flourishing (positive emotion, engagement, relationships, meaning and accomplishment, or PERMA). Notably, each of these models and indices suggests that well-being is composed of profiles across multiple domains, and not simply a single number (Forgeard, Jayawickreme, Kern, & Seligman, 2011). Individuals, organizations, and governments can decide which items are most important, see how they compare to each other, and devise strategic ways to increase or decrease them.

A missing element in each of these models that focus on the well-being of the adult is their obvious precursor: the well-being and functioning of youth. Child and adolescent psychology has focused mainly on developmental psychopathology and minimizing the negative effects of mental illness, and little on the well-being of young people and how to promote it. Adolescence is a particularly formative period and has often been ignored in contemporary psychology. The well-being and progress of young people are often measured only through their academic performance (e.g., grades and other academic qualifications).

Just as several components are needed to define and understand the well-being of the adult, Kern and colleagues (2014) suggest that a multifaceted approach to the well-being of the individual during childhood and adolescence is necessary. To this end, these authors have recently developed a theoretical model of the positive psychological functioning of young people, consisting of five factors that reflect the five domains of PERMA, characterized by the acronym EPOCH: engagement (complete absorption in what one is doing and interest in life activities), perseverance (the execution of objectives until they are achieved, despite the opposition and challenges), optimism (hope and confidence in the future), connection to others (satisfying relationships with others that provide a sense of reciprocal support and love), and happiness (joy, confidence, calmness, and enthusiasm).

As shown in Figure 1, EPOCH reflects the five-factor structure of PERMA, with domains of meaning and goals achieved that are more relevant to adolescents: optimism and perseverance, respectively (Figure 2 shows the original models in English). Meaning and goals achieved are not domains of well-being that have much relevance for the majority of children and

adolescents. Instead, the most optimistic young people show greater future meaning (Steinberg, 2012); also, perseverance or determination ("grit") is more predictive of academic performance than intelligence, traditionally measured using the intelligence quotient (IQ) (Duckworth, Peterson, Matthews, & Kelly, 2007).

POSITIVE EDUCATION

Schools have a key role in establishing and maintaining cultural and social values. Many children and adolescents spend most of their waking time in school environments. Most educational systems often set a negative tone, albeit well-intentioned. Students must sit quietly and behave or face disciplinary action. Teachers often spend a great deal of time and energy on issues such as student victimization, bullying, fighting, and disruption, which create stress and frustration for teachers, and a hostile environment, which is not conducive to learning. Eventually, a significant portion of students, teachers, and administrators become disillusioned with the school process. A recent study examined the words used by adolescents on social media such as Twitter and Facebook when they talking about their schools, and the most commonly-used words include "boring", "stupid", and "hate" (Schwartz et al., 2013).

Positive education presents a new paradigm and emphasizes positive emotions, positive character traits, the meaning and purpose of studying, and the personalized motivation to promote learning, in order to provide students with the tools to live a full life, within the academic environment and beyond it.

FIGURE 1
THE PARALLEL DOMAINS OF EPOCH AND PERMA (STEINBERG, 2012)

ADOLESCENT	ADULT
Happiness	Positive Emotions
Engagement	Engagement
Connectedness	Positive Relationships
Optimism	Meaning
Perseverance	Achievement

FIGURE 2
MODELOS ORIGINALES EN INGLÉS (STEINBERG, 2012)

ADOLESCENCE	ADULTHOOD
Positive Emotion	Positive Emotion
Engagement	Engagement
Relationships	Relationships
Optimism	Meaning
Perseverance	Accomplishment

This paradigm is based on educating in both the traditional skills of academic achievement and the tools for integral well-being (Seligman, Ernst, Gillham, Reivich, & Linkins, 2009). Schools often teach children and adolescents the tools they need for professional success in the future. Positive education teaches these traditional skills for success, and also the tools that allow the individual and their community to prosper and flourish. Based on the growing field of positive psychology, positive education focuses on cultivating well-being in students, teachers, and school administrators, to create an environment that promotes the growth of students and the academic community. This approach is parallel to the simultaneous teaching of skills for traditional academic performance (e.g., good grades and academic qualifications).

Positive education posits that well-being must be taught, because of its intrinsic value and its instrumental value.

Although the external conditions (e.g., economic growth, access to health, and education) have improved in virtually the whole world over the last 50 years, overall satisfaction with life has remained essentially stable in most countries (Inglehart, Foa, Peterson, & Welzel, 2007). During this same period, the prevalence of depression has increased at an alarming rate. Some studies claim that depression today is nearly ten times more common than it was 50 years ago (Wickramaratne, Weissman, Leaf, & Holford, 1989). Not only has the overall prevalence of clinical depression increased during the past five decades, but also the average age of a first episode of depression has gone from adulthood to adolescence. Today, one in five teenagers has an episode of clinical depression before finishing high school (Lewinsohn, Rohde, Seeley, & Fischer, 1993; Weissman, 1987). These results affirm the urgent need for an educational paradigm that directly addresses the psychological well-being of adolescents.

Apart from the alarming statistics for adolescents worldwide, which demonstrate the urgent need for a new educational paradigm that is aligned with the current realities, there are academic benefits of increasing the psychological health of young people. In general, happy people learn better. Negative emotions produce limited attention, negative and critical thinking, and analytical perspectives. In contrast, positive emotions generate creative and holistic thinking, and full attention (Boite, Goschke, & Kuhl, 2003; Estrada, Isen, & Young, 1994; Fredrickson, 1998; Fredrickson & Branigan, 2005; Isen, Daubman, & Nowicki, 1987; Isen, Rosenzweig, & Young, 1991; Kuhl, 1983 and 2000; Rowe, Hirsh, Anderson, & Smith, 2007; Seligman, et al, 2009).

Psychological research tells us that positive affect (e.g., joy, confidence, calmness, and enthusiasm) and negative affect (e.g., sadness, frustration, stress, fear, and anxiety) are factors that are independent of the emotional state of a person at any time –the elements of positive affect and negative affect may

be present simultaneously (Watson, Clark & Tellegen, 1988). Therefore, the presence of positive affect is favorable in educative moments and life events that require creativity and broad and holistic thinking, whereas negative affect is favorable during events that require critical and analytical thinking. Negative emotions are already generated by most educational environments; however, these environments do not yet generate positive affect. Having the whole range of emotions available and being able to activate these emotions when dealing with different problems and decisions is an art that can be learned.

Beyond the strictly academic benefits of happiness, well-being contributes significantly to other positive consequences of life. Research has shown that:

✔ People with greater life satisfaction enjoy better physical health, higher professional achievement, better social relationships, and greater economic contributions to society (Howell, Kern & Lyubomirsky, 2007; Lyubomirsky, King, & Diener, 2005; Pressman & Cohen, 2005).

✔ Optimists have better physical health, including faster recovery after surgery, less frequent illness, lower risk of mortality, and lower incidence of consumption of tobacco, alcohol, and drugs (Fry & Debats, 2009; Shen, McCreary, & Myers, 2004).

✔ People with more positive emotions show better social relationships and healthier behaviors (Howell et al., 2007; Lyubomirsky et al., 2005; Pressman & Cohen, 2005; Salovey, Rothman, Detweiler, & Steward, 2000).

✔ People who feel more gratitude experience fewer somatic symptoms (Froh, Yurkewicz, & Kashdan, 2009).

✔ Positive affect reduces prejudice toward members of other racial, ethnic, cultural, and religious groups (Johnson & Fredrickson, 2005).

To date, positive psychology has focused mainly on adults, and few studies have investigated the well-being of young people. However, some studies on adolescents have found that:

✔ Self-esteem and positive emotions produce positive effects on physical health in adolescents and children (Hoyt, Chase-Lansdale, McDade, & Adam, 2012).

✔ Keeping socioeconomic levels, grades and other life factors constant, happy teenagers earn substantially more money than less happy teenagers 15 years later in life (Diener, Nickerson, Lucas & Sandvik, 2002).

✔ Significant positive relationships with adult figures protect adolescents against negative consequences such as depression, gang membership, juvenile delinquency, sexual risk behavior, and substance abuse (Hamre & Pianta, 2001).

✔ The most persistent adolescents show healthier behaviors, better educational performance, greater success in the workplace years later, stronger marriages, better health in the present (fewer injuries and hospitalizations), and fewer

health problems 25 years later (Bogg & Roberts, 2004; Kern & Friedman, 2008; Roberts, Kuncel, Shiner, Caspi & Goldberg, 2007).

Positive education not only postulates that the tools for well-being must be taught, but it is also based on the empirical grounds that well-being *can* be taught.

A large number of studies have shown that well-being depends partly on genetic factors and partly on skills that can be taught and learned throughout life (Seligman, 2002). Beyond what the genetic lottery gives each individual, there is evidence that positive education increases well-being and improves the behavior of students, increases their participation in the classroom, teaches them the tools to achieve objectives that most parents value, and also improves academic performance (Seligman et al., 2009).

POSITIVE INTERVENTION IN AN EDUCATIONAL CONTEXT

There are several studies that show the impact of interventions of positive education. The main intervention is the Penn Resiliency Program (PRP), developed at the University of Pennsylvania. Its curriculum and syllabus teach students various skills for a fulfilled life, such as optimism, creativity, relaxation, decision making, assertiveness, problem solving and communication. In the past two decades, more than 20 studies involving over 2,000 students have evaluated the impact of the PRP compared with a control group (Seligman, et al., 2009). The results show that:

1. The PRP reduces and prevents symptoms of depression, desperation, and anxiety (Brunwasser & Gillham, 2008).

2. It works equally effectively for young people from different racial and ethnic backgrounds (Brunwasser & Gillham, 2008).

3. It is more effective when there is adequate training of leaders and teachers, and constant monitoring of the progress of the group (Gillham, Brunwasser, & Freres, 2007).

4. It reduces behavioral problems (Seligman, et al., 2009).

A second intervention of positive education that has less empirical evidence than the PRP, but has some significant results, is the Strath Haven Positive Psychology Curriculum (SHPPC). The objective of the curriculum is to enable students to identify their character strengths and encourage them to use these more in their daily activities, both inside and outside the classroom. The character strengths are identified using the Values in Action (VIA) questionnaire, an inventory of human attributes that Peterson and Seligman (2004) suggest have been valued by most cultures, if not all of them, through different periods. Examples of character strengths include creativity, perseverance, love, justice, and self-control. The SHPPC shows evidence of increasing the social skills of students, as well as increasing their participation in and enjoying attending school (Seligman et al., 2009).

MEDITATION, MINDFULNESS, AND ALTRUISM

Meditation is a practice that has its origins in Buddhist and Hindu cultures and has shown its benefits through the millennia, together with mindfulness and altruism generated by the practice of meditation. Meditation is a firmly established practice and it can indisputably be taught and learnt, inside and outside the school context. There are educational institutions that have included meditation in their formal curriculum, and there are also increasing numbers of non-academic institutions that offer meditation classes of all types (see examples in the next section of this chapter).

Many studies over the past two decades have scientifically established the relationship between meditation, altruism, mindfulness, and well-being (Myers, 2000; Diener & Seligman, 2004). For example, the studies by Martin Seligman indicate that the joy of performing an act of selfless kindness produces deep satisfaction (Seligman, 2002). In this study, a first group of students were given a sum of money and asked to go out and have fun for a few days while a second group were told to use the money to help those in need (the elderly, the sick, etc.), and all of the students were asked to write a report a few days later. The study showed that the satisfaction caused by a pleasant activity, such as going out with friends, watching a movie, or enjoying a dessert was much smaller and lasted less time than the well-being caused by performing acts of kindness. On a day when they carried out a kind and spontaneous act, the students reported that they had a better day, they were kinder to others, more appreciated by the people around them, and better friends and partners.

Collaborative research between neuroscientists and Buddhist meditators has resulted in numerous publications that have established –with scientific credibility– the link between meditation and its effects on emotional balance and other components of psychological well-being. In the words of American neuroscientist Richard Davidson, "the research on meditation shows that the brain is malleable and can be physically modified in a way that few people could imagine" (Kaufman, 2005). For example, when meditating on kindness and compassion (Lutz et. al., 2004), the most experienced meditators showed a large increase in high frequency brain activity (gamma waves) in brain areas related to positive emotions and empathy.

Barbara Fredrickson has shown the positive effects of learning to generate positive emotions through meditation. She worked with 140 volunteers with no previous experience of meditation and randomly assigned 70 of them to the practice of meditation, thirty minutes a day for seven weeks. The results were compared with the other 70 subjects who did not practice any type of meditation. The result was robust and impressive. In her words, "when people with no experience of meditation learn to calm and quiet their mind and expand their capacity for love and kindness, there is a transformation from within the individual out. They [those who meditated] experienced more love, more commitment, more serenity, more joy, more fun –more of all of the positive emotions that were measured. And although usually meditated alone, they experienced the heights of their positive emotions when interacting with others. Their lives described an upwards spiral" (Fredrickson et al., 2008). Further experiments have confirmed that the mechanisms underlying these effects are related to neurological and physiological connections that affect individuals' brains and other parts of the body (Kok & Fredrickson, 2010).

The scientific literature indicates that selfish people are more focused on enjoying hedonic pleasure than cultivating comprehensive psychological well-being and, therefore, they only enjoy a transitory and short-lived well-being. On the other hand, people who reduce their selfish tendencies enjoy a life of greater satisfaction, peace, and serenity (Dambrun & Ricard, 2011).

POSITIVE EDUCATION IN ACTION

Fortunately, positive education is being implemented in more and more places, including individual classrooms, whole schools, non-formal education forums, and education systems on a national level. It is crucial to understand that, in order to reap and enjoy the maximum benefits of the multiple interventions that exist, each intervention must be adapted to the context in which it is applied. The intervention designs are malleable, and the multiple interventions must be adapted to the cultural, social, and economic differences for maximum impact.

The tools for generating individual and community well-being have been passed from generation to generation for millennia. For example, some of the earliest written records of meditation come from the Hindu traditions around 1500 BC (Everly & Lating, 2002). Since then, meditation and a variety of other practices, which have now been scientifically proven to be effective, have been taught in monasteries, schools, health and welfare centers, prisons, and other types of organizations and institutions.

Positive education (using the definition of the intersection of education and positive psychology) was formally founded by Martin Seligman (also the father of positive psychology), when he began to investigate the impact of different interventions at the individual classroom level in the United States. Once there was enough evidence regarding which interventions were effective and which were not, the first schools to implement this group of interventions (Penn Resilience Program, or PRP) at the level of the entire institution were two schools in Australia: Geelong Grammar School and Saint Peter's College (Adelaide). Since then, schools in several countries have been implementing all kinds of positive interventions and infusing their curricula with positive psychology. These countries include (for now) the United

States, Australia, India, Nepal, Canada, Mexico, the UK, Holland, China and Bhutan (Adler et al., 2013).

The only country that has incorporated positive education at the national level is the Himalayan Kingdom of Bhutan. Since 1972, this country has used gross national happiness (GNH) instead of gross domestic product (GDP) as its index of national progress. This index is the guide for the institutional structure and public policy in Bhutan. This alternate philosophy of well-being and national progress is also permeating the education sector. The motto of the Ministry of Education of Bhutan is "Educating for GNH". Of all of the students in the country, 95% attend public schools, and all of these schools have adopted a complementary curriculum to the traditional academic curriculum, which includes tools for well-being, such as meditation, resilience, effective communication, decision making, compassion and empathy, critical and creative thinking, and self-knowledge. Just as students take classes in traditional subjects like math, literature, and science, they also take classes in these tools and skills for living a full life.

Bhutan is a microcosm of what it means to build an educational system with an empirically informed (and philosophically and morally noble) answer to the question: educating for what? Education is a central pillar of human development and the social and moral fiber of our communities. If we want a society that empowers the individual to have as productive and fulfilling a life as possible within healthy and happy communities, then positive education provides an empirically grounded path to achieving that worthy goal.

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POSITIVE PSYCHOLOGY, EMOTIONAL EDUCATION AND THE HAPPY CLASSROOMS PROGRAM

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La psicología positiva tiene múltiples aplicaciones. En este artículo nos centramos en la educación formal, de los 3 a los 18 años. Se expone como el desarrollo del bienestar debería ser una de las finalidades de la educación, lo cual repercutiría en el profesorado, alumnado, familias y por extensión a la sociedad en general. La educación emocional (Bisquerra, 2000, 2009), desde sus orígenes, ha tenido esto claro. Con el surgimiento de la psicología positiva se produjo un renovado esfuerzo en este sentido, como una mejor fundamentación. El GROP (Grup de Recerca en Orientación Psicopedagógica) de la Universidad de Barcelona está realizando investigaciones en esta línea. Aulas Felices es el primer programa en lengua castellana de psicología positiva aplicada a la educación; dirigido a alumnado de educación infantil, primaria y secundaria. El programa centra sus aplicaciones en las fortalezas personales y la atención plena; es gratuito y de libre distribución. En el artículo se argumenta sobre la importancia de potenciar el bienestar en la educación, se presentan actividades prácticas y estrategias de intervención, con especial referencia a la formación del profesorado.
Palabras clave: Psicología positiva, Bienestar, Educación emocional, Fortalezas personales, Atención plena.

Positive psychology has multiple applications. This article is focused on formal education, from the ages of 3 to 18 years. The development of well-being should be one of the aims of education, which would affect teachers, students, families and by extension society at large. This has been a clear aim for emotional education (Bisquerra, 2000, 2009), from the outset. With the emergence of positive psychology, there was a renewed effort in this direction, as a means of providing a better foundation. GROP (Grup de Recerca en Orientación Psicopedagógica [Research in Psychopedagogical Education Group]) at the University of Barcelona is conducting research on this subject. The Happy Classrooms ("Aulas felices") program developed by the SATI team is the first program in Spanish aimed at working on positive education. It is designed for children and youths in pre-school, primary and secondary education. The program focuses its applications on character strengths and mindfulness. It is freely available for access and distribution. This article argues for the importance of enhancing well-being in education. Practical activities and intervention strategies are presented, with special reference to the importance of teacher training.
Key words: Positive psychology, Well-being, Emotional education, Character strengths, Mindfulness.

WELL-BEING AS A GOAL OF EDUCATION

Well-being should be one of the main goals of education and politics. But what kind of well-being are we talking about? In the media, when well-being is discussed it is understood as material well-being, meaning economic and technological development. Here we refer to another type of well-being. The diversity of approaches to well-being justifies the usefulness of "adding a qualifier" to specify to which kind of well-being we are referring: material well-being, social well-being, physical well-being, professional well-being (engagement), emotional well-being, subjective well-being, psychological well-being, hedonic well-being, or eudemonic well-being (Bisquerra, 2013). All of these types of well-being should be part of education, as they guide our way forward.

It should be made clear that well-being has a personal dimension and another social one. We must transcend this myopic view of individual personal well-being to guide ourselves towards the integral development of individuals within their respective organizations. The objective is social well-being in interaction with personal well-being.

Education should not be confused with schooling. Schooling equates to formal education and is limited to centers of infant, primary, and secondary education. But education is a much broader concept that refers to any learning process in any context, and throughout life. In this article, however, we will only cover formal education.

It should be emphasized that schools are an ideal medium for the dissemination of the culture of well-being. Among other reasons because, this way, it can begin in the earliest ages and also because it is the most effective way to reach the entire population. Indeed, in developed countries almost one hundred percent of children go through the school system and access to the families can be gained through these centers. Therefore, intervention through formal education ensures access to a large part of the population. No other intervention can ensure that so many people are reached.

EMOTIONAL EDUCATION FOR WELL-BEING

Emotional education aims to develop emotional skills and well-being (Bisquerra, 2000, 2009). It is based on the principle that well-being is one of the basic goals of personal and social life. Happiness is often sought via erroneous paths that can lead to risky behavior such as drug use. Science-based education for well-being should be seen as essential for the integral development of students.

Positive psychology, emotional intelligence and emotional education provide evidence of what works and what does not. Emotional intelligence is the ability to perceive and express emotions, to use the emotions to facilitate thought, to understand and reason through the emotions and to regulate one's own emotions and those of others (Mayer, Salovey, Caruso, & Cherkasskiy, 2015). Knowledge of positive psychology and emotional intelligence should be disseminated through emotional education, with the aim of developing key life skills that enable one to achieve greater well-being.

Emotional education should begin in the early stages of life and must be present throughout the entire life cycle.

Emotional education is an eminently practical methodology (group dynamics, self-reflection, dialogic reason, games, relaxation, breathing, etc.) with the aim of promoting the development of emotional competencies.

Generally, teachers have not received an initial or continuing training in emotional education and they are the first ones that need this, in order to be able to contribute to the development of emotional competencies in students. In this sense, we can affirm that teachers and families should be the first recipients of emotional education.

On the occasion of the 25th anniversary of the publication of the first article on emotional intelligence (Mayer & Salovey, 1990) a review of the research applied to education has been carried out (Bisquerra, García Navarro, & Pérez-González, 2014) from which principles are derived for the implementation of programs.

APPLICATIONS OF POSITIVE PSYCHOLOGY TO EDUCATION

Positive psychology is a movement that emerged at the turn of this century and it has experienced considerable publicity from outset, as if it were a paradigm shift opening new hopes for a better future, focused on the well-being of people and of society in general. This has very important applications in education.

Positive psychology is proposed as basic pillars of study and research: positive emotions, positive individual traits (virtues and strengths), positive institutions that facilitate their development and programs that help improve people's quality of life and prevent the incidence of psychopathology.

To Linley, Harrington, Stephen, and Wood (2006) *Positive psychology is the scientific study of optimal human functioning. At the meta-psychological level it aims to redress the imbalance in psychological research and practice, by drawing attention to the positive aspects of human functioning and experience and integrating them into our understanding of the negative aspects of human functioning and experience. At the pragmatic level, it is about understanding the sources, processes and mechanisms that lead to desirable successes.*

As a result of research in positive psychology, practitioners are in a better situation to help people build their well-being and flourish rather than simply exist. This means improving the quality of life and subjective well-being; preventing the onset of mental disorders and psychopathology; and developing emotional skills, amongst other things. All of this occurs within the most rigorous scientific methodology.

The usual themes of positive psychology are well-being, human strengths, flow, optimism, humor, creativity, resilience, emotional intelligence, and mindfulness, among others. All of these contents should be part of the compulsory academic curriculum of primary and secondary students, as well as universities.

EMOTIONAL EDUCATION FOR WELL-BEING WITHIN GROP

GROP (Grup de Recerca en Orientación Psicopedagógica) [Psychopedagogical Guidance Research Group] at the University of Barcelona (UB) was founded in 1997 with the aim of investigating emotional education. A model of emotional competencies was produced, which is in constant review and includes five blocks: emotional awareness, emotional regulation, emotional autonomy, social skills, and life skills for well-being (Bisquerra, 2009).

When GROP had been working for three years, positive psychology emerged, which gave a boost to the aforementioned fifth block (life skills for well-being). In 2002, at the UB, the *Postgraduate Diploma in Emotional education and well-being* was created, which has among its fundamentals emotional intelligence, neuroscience and positive psychology. In fact, the development of conscious well-being is one of the essential objectives of the work of GROP.

The postgraduate students carry out internships in schools that generally involve the design, implementation and evaluation of emotional education programs, in which, of course, well-being is an essential aspect. Currently, an assessment of the effects of this educational practice is in the process of being carried out. At the moment, due to the evidence that is available, it can be said that the teachers involved show a clear satisfaction with the improvements in emotional competencies, reduced conflict and violence, improved classroom environment, and even improved academic performance.

Emotional education can be applied through all of the academic subjects like a multidisciplinary theme. However tutoring provides an ideal space for its practice (Bisquerra, 2012). Examples of activities are noting on screens the emotion

being experienced with different facial expressions, expressing or verbalizing the positive emotions one is "feeling", expressing thanks for the good things that happen through texts or in person, spending the first or last five minutes of each day, discussing the positive aspects of one's life, and carrying out relaxation and meditation practices at certain times of the school day.

School activities can be fun, because fun is not the opposite of seriousness, but rather boredom. We still have the challenge of moving from schooling based on the idea of "no pain, no gain" to one where the motto is "teaching by inspiring". The value of play for learning should be rediscovered in order to make academic activities fun.

A sense of humor is another step regarding the above. Humor does not have to decrease discipline, but it can increase the respect for the teacher. We must accept that learning takes effort and sacrifice; but this is not incompatible with humor and fun.

It is about creating a secure environment where students feel comfortable, both with their peers and with the teachers. Fear is at the opposite extreme to happiness. A climate of fear can have various causes: fear of exams, fear of the teacher, fear of punishment, and fear of peers (bullying), among others. Fears should be monitored and sensitivity is required in order to counteract fear in a climate of security.

Group activities foster well-being. Research has shown that one of the main factors in well-being is the social relations. Therefore, using group dynamics in class can promote learning and well-being. Some methodologies such as cooperative learning also promote social relations.

With the intention of making the activities, exercises and resources available to the interested teachers, various materials have been developed by members of GROP. Some examples are as follows. López (2003, 2011) developed materials and resources for children's education; Renom (2003) did the same for primary education; Pascual and Cuadrado (2001) did this for secondary education; Guell, & Muñoz (2003) for upper secondary; Agulló et al. (2010) presented resources for the practice of emotional education in general; Álvarez (2001) developed the methodology for the design and evaluation of emotional education programs; Bisquerra (2011) presented proposals for educators and families; several members of GROP (2009) have produced activities for the development of emotional intelligence in children; Redorta et al. (2006) studied the relationship between emotion and conflict; Bisquerra (2008) presented the approach of emotional education in citizenship education; Soldevila (2009) discussed emotional education in the elderly; Bisquerra et al. (2014) present proposals for preventing bullying at school through emotional education; Filella (2014), focus on the application of emotional education through video games; Pujol and Bisquerra (2012) have developed a teaching resource for children entitled *El Gran*

Libro de las Emociones [The Big Book of emotions]; and Bisquerra (2015) presented a didactic material entitled *Universo de las emociones [The Universe of Emotions]*.

The design, application and evaluation of emotional education programs is one of the lines of research of GROP, on which there have been more than ten doctoral theses presented and numerous journal articles published. The overall results are highly positive. For more details on the activities, research and publications of GROP, please see the website: http://www.ub.edu/grop/castellano/, which directly offers an abundance of literature on the subject.

POSITIVE PSYCHOLOGY IN THE HAPPY CLASSROOMS PROGRAM

The "Happy Classrooms" program was created by the SATI team formed by Ricardo Arguís, Ana Bolsas, Silvia Hernández and Mar Salvador. The word *sati* comes from the ancient language of Pali, and it roughly translates to 'mindfulness'. The team is composed of four teachers working on different educational stages, with a varied work history and based on the desire to work with positive psychology in education.

After learning about positive psychology, observing its applicability to schools and searching the publishing market and internet for proposals that existed on the subject, they decided to create an educational program that reconciles the learning of classroom content with well-being in the classrooms. Its main objectives are twofold: to increase happiness in students, teachers and families, and to promote the personal and social development of students.

Happy Classrooms was published online in October 2010. In November 2012 the second edition, revised and improved, was published. This program takes as its conceptual framework the scientific contributions of positive psychology. It offers 300 activities, methodological suggestions and general proposals for action consistent with the program.

It is aimed at students from 3 to 18 years of age. The activities for the higher grades can also be used with adults. It can be applied in all curricular areas; also within tutorials and values education. The program is located within the core competencies of the current European education systems; it allows teachers to practice the more multidisciplinary skills: a sense of initiative and entrepreneurship, social and civic competence, the skill of learning to learn.

It is a freely available program that can be downloaded at no cost at www.aulasfelices.org. A version in English is also available. Its generous sharing over the Internet and the painstaking work behind the material have earned it recognition by the teachers who know it. At present it is applied in around 100 schools. It is recommended reading in university programs, masters and doctorate degrees at various Spanish and foreign universities.

The SATI team was founded on the model of well-being described by Seligman (2002: 346-347; 2011) known as PERMA. The name is an acronym of its five components:

Positive emotions
Engagement
Relationships
Meaning
Achievements

Happy Classrooms takes the research of positive psychology into consideration, since this research provides evidence that to be happy one must develop personal strengths and a state of serenity to help achieve satisfaction in life. Thus, happiness and human self-improvement are united. Well-being does not depend so much on the external circumstances but rather on how we perceive and deal with them.

Basic characteristics

The basic features of the program are as follows:

✔ It is an integrative model to enhance the personal and social development of students.
✔ It unifies and structures the work that is currently being carried out in schools on the tutorial, values education and key skills related to personal and social development and learning to learn.
✔ It is a broad and flexible set of resources that are applicable to students aged 3 to 18 years with the possibility of applying them in all areas and all school situations without having the feeling that it has been "added on".
✔ It has two central pillars, which are two concepts of particular relevance in positive psychology: mindfulness and educating in the 24 personal strengths (Peterson & Seligman, 2004). All this with the eventual aim of making the students more independent, more able to navigate the world around them and, ultimately, "happier" (SATI Team, 2012, p.11).

In keeping with the premises of positive psychology and the rigor with which the program was created, several investigations are underway to obtain data on the effectiveness of the program. The results of these studies will be available soon.

MINDFULNESS

Mindfulness is a permanent attitude of consciousness and calm that allows us to live fully in the present moment. Its roots go back to the ancient Eastern traditions, which have been studied and promoted in recent years within modern psychology. It is important to emphasize that mindfulness is not limited to relaxation and concentration techniques. It goes beyond that, since when integrated into regular practice, these techniques form the spark of an attitude, a philosophy of life that allows us to live every moment more deeply and with more enjoyment.

Currently, the practice of mindfulness is being promoted by psychologists, physicians and educators in various countries and in numerous professional contexts, and its benefits are backed by a growing body of research (Brown & Ryan, 2003; Cebolla & Miró, 2008; Davidson & Begley, 2012; Kabat-Zinn, 1990, 2005, Lavilla, Molina, & López, 2008; Lyubomirsky, 2008; Simón, 2007; and Vallejo, 2006). From this research, it has been shown that "the practice of mindfulness can produce many highly beneficial effects, among which we highlight:

✔ Increased concentration
✔ Reduced automation
✔ The achievement of more control of one's thoughts, emotions and behaviors
✔ Greater enjoyment of the present moment
✔ Healthy physical effects: relaxation, improved breathing, regulated blood pressure, strengthened immune system, etc.
✔ Positive changes at the neurobiological level" (SATI Team, 2012, p.37)

Advances in psychology and scientific support for the practice of mindfulness have meant that its application to the school context has increased and gained recognition. Arguís (2014) argues the importance of mindfulness in education. According to this author, "Mindfulness helps:

✔ To counteract daily stress, to experience things in a more attentive and conscious way.
✔ To assimilate the information we receive more calmly and in a more relaxed way, in order to learn better and avoid "intoxication".
✔ To provide elements for personal and social development and the promotion of well-being in schools that complement traditional academic learning" (p.131).

Before carrying out this activity in the classroom, the teachers must be trained in and practice mindfulness in order to be able to work adequately with students and also to reap the benefits of regular practice.

There are various techniques for training students in mindfulness, which include the following. A more detailed description can be found in Chapter 7 of the Happy Classrooms program.

✔ Meditation based on breathing and walking.
✔ Techniques based on relaxation and meditation: body scan, exercises derived from yoga, tai chi, chi kung.
✔ Mindfulness in everyday life: calmly savoring a food; enjoying a picture or music; choosing and performing everyday tasks mindfully, etc.

For example, the activity "My hands (1): the caress". This activity aims to promote sensory awareness and concentration. It can be summarized as follows: After taking a few quiet breaths, the students observe their hands; they put their palms together, pressing them in order to try to bring them closer together; the hands are released, leaving only the fingertips touching. This is repeated several times. After the hands are separated, they are

opened and closed simultaneously, noting the gentle pressure of the nail on the skin when making a fist and noting the stretching feeling when opening them. Finally, a hand is reached out and its outline is drawn with the index finger of the other, going over the fingers one by one, while enjoying the caress. This is repeated on the other hand. Three deep breaths are taken in order to close the activity. Doing this final stage in pairs is another option. This activity and other similar ones can be seen at: https://convivencia.wordpress.com/2013/02/25/atencionplena enceipcatalina/

Throughout the school day, there are many moments for practicing mindfulness. For example:

✔ At the beginning of a class in any subject or area.

✔ At times of commotion in the classroom or a disruption to the working environment.

✔ In the transition from one activity to another one that requires more concentration.

✔ Restoring calm after a very "lively" activity (after recess, after PE class or music, etc.).

It is about small, but systematic, moments of mindfulness – which take place within the routines and habits– that the students internalize in order to integrate them into their daily lives. These moments are a resource of inestimable value, an inner strength and an attitude to life that favors a conscious and happy life.

PERSONAL STRENGTHS

One of the key aspects of positive psychology is the study of human strengths, which lies within "trait theory" and is linked to the idea of "good character". Research on the positive traits of personality has created an elaborate theory about what are known as personal strengths (Seligman, 2002; Peterson & Seligman, 2004). These authors have developed and validated a descriptive model of personality based on personal strengths, understood as universal, measurable and teachable positive traits.

After evaluating other models, the SATI team opted for the model of 24 strengths by Peterson and Seligman (2004), because they deemed it to have the following characteristics: it is all-encompassing and it also has a solid theoretical basis, empirical evidence and, above all, great applicability in the educational world.

After years of research, a team of practitioners led by Peterson and Seligman identified 24 personal strengths, grouped around six broad virtues. The strengths are defined as "morally assessable styles of thinking, feeling and acting that contribute to a successful life." This is the list (Peterson and Seligman, 2004):

WISDOM AND KNOWLEDGE: Cognitive strengths involving the acquisition and use of knowledge.

1. Creativity
2. Curiosity
3. Open-mindedness (judgment, critical thinking)
4. Love of learning
5. Perspective (wisdom)

COURAGE: Emotional strengths involving the exercising of will power in order to achieve goals in situations of external or internal difficulty.

6. Courage
7. Perseverance
8. Integrity
9. Vitality

HUMANITY: Interpersonal strengths that involve caring for others and offering friendship and love.

10. Love
11. Kindness
12. Social intelligence (emotional intelligence, personal intelligence)

JUSTICE: Civic strengths that involve a healthy community life.

13. Citizenship (social responsibility, loyalty, teamwork)
14. Sense of justice
15. Leadership

MODERATION: Strengths that protect us against excesses.

16. Ability to forgive, mercy
17. Modesty, humility
18. Prudence (discretion, caution)
19. Self-control, self-regulation

TRANSCENDENCE: Strengths that forge connections with the immensity of the universe and provide meaning to life.

20. Appreciation of beauty and excellence
21. Gratitude
22. Hope (optimism, future projection)
23. Sense of humor
24. Spirituality (religious meaning, faith, meaning in life)

The interested reader can find out more about these human strengths in the literature. It should be noted that there is growing research to support the usefulness of this system in enhancing well-being and happiness in various fields of human life. The Values In Action Institute (VIA, http://www.viacharacter.org), created by Seligman and Mayerson, is an organization that promotes research, with its main tools being online questionnaires.

The research results have shown the relationship between these strengths and life satisfaction, psychological well-being, and happiness. The development of skills related to human strengths acts as a barrier to psychological disorders (Seligman & Csikszentmihalyi, 2000).

The synthesis of some of the most noteworthy results on the issue of strengths and virtues related to education can be found in the *Aulas Felices* [Happy Classrooms] manual, the result of a literature review on the subject (Park & Peterson, 2009a, 2009b; Peterson & Park, 2009; Peterson & Seligman, 2004). Education can play a very important role in the development of

human strengths, facilitating it and providing training as a tool for building happiness.

With regards to the no. 12 strength, social or emotional intelligence, it is essential to address this from an educational standpoint. To carry out the proposed activities around this strength the contributions of different authors such as Fernández Berrocal, Salovey and Mayer were taken into account, as well as the material produced and presented according to age level prepared by GROP. This strength is related to others such as citizenship, self-control, or open-mindedness.

Inserting the strengths model by Peterson and Seligman into the curriculum provides an integrative framework that enables school work to be tackled based on the three core competencies: sense of initiative and entrepreneurship, social and civic competence, and the skill of learning to learn.

Despite their importance and regulatory support, these strengths are at risk of being missing in the classroom as they do not correspond exactly to traditional curriculum areas. The SATI team has related the 24 personal strengths to these skills, and this work can be considered a functional breakdown of them. Table 1 shows this relationship.

INTERVENTION STRATEGIES

In the "Happy Classrooms" program, there are more than three hundred activities, aimed at students of infant, primary and secondary education, for practicing each of the personal strengths. These activities are accompanied by a series of intervention strategies that are complementary to each other: global proposals, specific proposals, customized plans, and joint work between families and schools.

1. Global proposals.- This concerns the following five principles for creating a positive environment in schools, enhancing well-being and learning, and promoting the development of personal strengths.

✔ The teachers' *attitude* is very important. This refers, among other things, to the role of the adult as a role model and reference in the classroom, particularly in the work of personal strengths. The boosting of positive traits in students must be accompanied by the work of the teacher. The effort and consistency of the teacher will be the invitation and the activation of the students' response.

✔ Creating learning conditions that allow *flow*

✔ Implementing efficacious *methodological strategies* for learning and enhancing the well-being of students

✔ Promoting an education that prioritizes quality over quantity

✔ The use of other *complementary programs* that can contribute to the development of personal strengths

2. Specific proposals.- This is a large battery of around 300 activities for practicing the 24 personal strengths in the classroom with the class group and it can be applied by any teacher: the class tutors and the experts in the different

subjects. It is recommended to choose a number of strengths and to schedule their practice in the classroom, choosing the activities to be carried out carefully in order not to be inundated or overwhelmed and to make the above principles a constant that permeates the work in the classroom.

An example is the "positive messages" activity (from strength 12, *social intelligence*). Its objective is to convey well-being and happiness to others through positive messages. This is a summary of the proposal: As motivation and inspiration the video "Be happy" is shown, which can be located on YouTube: http://www.youtube.com/watch?v=SpbMt7ehgeo). Afterwards, the students are asked to write messages that produce a positive effect when read.

The messages (or a sample of them) are read in class and a number of them are selected for the creation of posters that will be distributed and placed around the school. Emphasis is placed on the originality of the messages and the fact that they come from the students. The activity can be practiced in English class (or other languages) following the same pattern. Examples of messages developed by students from 4th grade primary can be viewed at:
https://convivencialles.wordpress.com/2015/01/mensajes positivos.pdf
https://convivencia.wordpress.com/2015/01/25/buenasp racticasfortalezainteligenciasocialaulasfelices/

3. Personalized plans.- The growth of the student is oriented, taking into consideration the different characteristics of each individual and their specific profile of personal strengths. At this level, the students complete the VIA questionnaire and choose the strengths to be practiced, devising their own individual work plan.

TABLE 1			
Competencies	INITIATIVE	SOCIAL AND CIVIC	LEARNING TO LEARN
	Creativity	Perspective	Creativity
	Curiosity	Integrity	Curiosity
	Openmindedness	Love	Openmindedness
	Love of learning	Kindness	Love of learning
	Bravery	Citizenship	Perspective
Personal Strengths	Perseverance	Sense of justice	Perseverance
	Vitality	Leadership	Citizenship
	Modesty	Capacity to forgive	Self-Control
	Prudence		
	Self-control	Gratitude	
	Appreciation of beauty	Modesty	
	Hope		
	Sense of humor		
	Spirituality		
	Modesty		
	Leadership		

4. Joint work between families and schools.- It is obvious, but necessary to remember, that it is essential to inform and educate families to establish joint guidelines for action, in order to encourage the necessary coordination between family and school, in the interests of greater program efficiency.

WHAT ABOUT THE TEACHERS?

Teacher training is critical to any change or impetus in educational improvement. The model promoted by the SATI team is committed to theoretical and practical training, with examples of good classroom proposals for the different educational stages, complemented by a personal commitment to work in the classroom. It includes first-hand experience of the strengths and mindfulness, with guidelines for their practice between sessions. Happy Classrooms program activities in different schools are available for teachers using this link: https://convivencia.wordpress.com/2013/06/06/9525/

As a summary we can say that education is much more than the traditional academic instruction of content. An authentic education should promote the personal and social development of all students. The ultimate purpose of education is to promote personal and social well-being.

In the previous sections we have hoped to convey that learning and well-being are compatible. Emotional education programs, the Happy Classrooms program and other proposals are important and necessary in promoting personal and social development, and student well-being.

It is crucial that these programs not only provide proposals for activities appropriate to our educational context but they must also be accompanied by methodological proposals and actionable criteria, which should permeate the daily work in the classroom. In order to be effective this should be integrated into the curriculum whenever possible. It is important that educational interventions are not isolated actions, but a continuum that permeates all classroom tasks. This implies that the actions planned documents should come from the center (the school education plan, the curricular stage plan, and the plan of tutorial activity). In other words, these documents should cover emotional education and well-being among the objectives and activities of the center. And these practices and their essence must pass through the walls of the center and reach the entire educational community (teachers, students, non-teaching staff, families, and the environment), so that everyone benefits from their positive effects. This requires as its starting point the awareness and training of teachers, and it is essential that the teacher training is driven by the public administration.

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POSITIVE PSYCHOLOGY IN SCHOOLS: A CHANGE WITH DEEP ROOTS

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La felicidad es un valor universal del ser humano y el campo de estudio de la psicología positiva nos aporta un conocimiento relevante acerca de su impacto en nuestras vidas, así como de sus correlatos. La escuela es uno de los principales contextos de desarrollo humano y por ello el lugar por excelencia para facilitar y promover la felicidad en todos los niños y jóvenes. Ahora bien, implementar la psicología positiva en la escuela requiere repensar en nuestro propio concepto de educación, considerar la felicidad dentro de los objetivos del proyecto educativo, e introducir modificaciones en la organización escolar y las metodologías docentes. Todo ello conlleva a su vez la inserción de dicho marco de trabajo en la formación inicial y permanente del profesorado así como la necesidad de profundizar en el conocimiento de la felicidad en la infancia y su papel en el proceso educativo.
Palabras clave: Felicidad, Escuela, Organización escolar, Proceso educativo.

Happiness is a universal human value and the field of positive psychology gives us relevant knowledge about its impact in our lives and its correlates. The school is one of the main contexts of human development and therefore the principal place for facilitating and promoting happiness for all children and young people. Implementing positive psychology in schools requires a rethinking of our concept of education, considering happiness within the objectives of the educational plan, and introducing changes in school organization and teaching methods. All this, in turn, leads to the inclusion of this framework within pre-service and in-service teacher training and the need for further knowledge about children's happiness and its role in the educational process.
Key words: Happiness, School, School organization, Educational process.

For over a decade, positive psychology has been seeking to understand positive emotion and proposing to study human behavior from a perspective focused on strengths (Keyes, Shmotkin, & Ryff, 2002). Today, this branch of psychology has established a broad movement at international level, characterized by a rigorous scientific approach that is promoting research and application in important areas (Vázquez & Hervás, 2008), including education.

THE PILLARS OF POSITIVE PSYCHOLOGY: THE OBJECTIVES

According to Seligman (2002), the three pillars of study of positive psychology are: positive emotions, positive traits (virtues, personal strengths and skills) and the positive institutions that facilitate the development of these emotions and traits. In recent years several authors have added another element to these three pillars: positive relationships (Peterson & Park, 2006). Thus we must be aware of the extraordinary possibilities that positive psychology offers for renewing educational practices based on a solid scientific foundation.

This approach is based on several studies that show how "positive emotions encourage creative thinking to solve interpersonal problems, promote cognitive flexibility, enable

assertive decision-making, develop responses of generosity and altruism, increase intellectual resources and counteract depressive tendencies" (Greco, Morelato, & Ison, 2006, p.81). Likewise, studies such as those by Westling (2002) or Sutton and Wheatley (2003) show how positive emotions can form an upward spiral that creates an appropriate classroom climate, a situation associated in turn with healthy development, optimal learning and decreased maladaptive behaviors. In this sense, as pointed out by Javaloy, Páez, and Rodríguez (2009, p.284), "positive interpersonal relationships generate happiness" therefore "it does not seem to be a coincidence that well-being is almost always linked to a social context" (Avia & Vázquez, 1998, p.43).

Positive psychology advocates the use of personal strengths (Peterson & Seligman, 2004) to achieve higher levels of well-being. That is, it proposes that people understand and are aware of their potential so they can learn to use their strengths, which act as a vehicle for personal and professional success (Jiménez, Alvarado, & Puente, 2013). The most notable features of personal strengths include that they are acquirable, measurable and they are exercised when the context requires, needs or facilitates them. It is relevant to mention some of the advantages that are related to the development of each strength. For example, the strengths of kindness and generosity, love and being loved, integrity, and teamwork are associated with greater empathy, with the establishment of promoting links of freedom, support, and security, and the configuration of positive

social relationships, the latter being a basic pillar for life satisfaction (Grinhauz & Castro Solano, 2014; Ryan & Deci, 2000; Seligman, 2011). Also, perseverance (associated with optimism and hope), curiosity, love of knowledge and open-mindedness are related to academic achievement and school success, promoting learning and intrinsic motivation (Kashdan & Yuen, 2007). In turn, the strength of courage is linked to an increased internal locus of control (Jiménez, Alvarado, & Puente, 2013) and promoting physical and mental health (Peterson & Park, 2006). It should also be noted that self-regulation (which facilitates attention and concentration), prudence and the ability to forgive (which reduces anger and impulsivity) are related to a positive psychological development and a better adaptation in schools (Cillessen & Rose, 2005). Similarly, humor is associated with increased assertiveness and competence in school and social contexts, while gratitude is associated with positive affect, optimism, social support and prosocial behavior (Froh, Yukewicz, & Kashdan, 2009). Strengths related to the virtue of justice, such as impartiality, leadership and citizenship, are also linked to higher self-regulation, empathy, and health (Garaigordobil, 2006; Gimenez, Vázquez, & Hervás, 2010). Love, hope and vitality are the strengths that are most related to high levels of happiness in children aged between 3 and 9 years (Park & Peterson, 2006a), while the virtue of humanity, especially love, is the most present in children between the ages of 10 and 17 years, as well as gratitude, which facilitates the creation of social ties at this stage (Park & Peterson, 20066).

One of the advantages of the strengths proposed by Peterson and Seligman (2004), in addition to their transcultural character and that they are measurable and can be taught, is their intimate relationship with the three multidisciplinary core competencies of our educational system: the competence of autonomy and personal initiative; social and civic competence; and the competence of learning to learn (Arguís, Bolsas, Hernández-Paniello, & Salvador-Monge, 2010). In addition, practicing these strengths creates positive emotions for everyone, since we can all be "winners" when we act with our strengths and virtues, which undoubtedly contributes to personal well-being (Seligman, 2011).

The third pillar of positive psychology is that of the educational institutions. The school is the place where all children have the opportunity to learn and develop the skills and knowledge that will enable them to adapt to society, and it is the second most influential context during their childhood after the family. As Arguís, Bolsas, Hernández-Paniello, and Salvador-Monge note (2010, p.3), "the essential objective of every teacher is to enable children and young people to develop their positive aspects (their personal strengths) as much as possible and enhance their present and future well-being." Various studies have shown that schools that offer extracurricular activities (Gilman, 2001), meaningful tasks structured by level (Maton, 1990), and security and control (Adelman, Taylor, & Nelson, 1989) predict higher

levels of childhood happiness. However, to borrow the words of Fernández-Domínguez (2009, p.249),

> Our schools are often a place of suffering for teachers and students. For some, a source of stress and frustration; for others, a time of boredom and disengagement with life. Often school promotes competitiveness, performance, passivity, blind compliance and obedience, forgetting at times that students are individuals, with their own values, skills, needs and limits.

In this sense, we cannot ignore the important role played by the school, as long as it is not just a happy place where children enjoy themselves and attend with enthusiasm, but also a place where they learn to be happy (López, Piñero, Sevilla, & Guerra, 2011).

IMPLEMENTATION OF POSITIVE PSYCHOLOGY IN SCHOOL

Hand in hand with the progress of the scientific findings about the benefits that positive psychology contributes to development and well-being, educational programs have been developed and implemented to promote these benefits in childhood and youth. Work on the abovementioned pillars of positive psychology has been integrated mostly in the form of specific programs implemented either in after-school hours or within the school timetable (e.g., during tutorials). In the best case scenario it has been transversely integrated as part of the content and activities of numerous subjects but rarely has it been defined formally within the educational objectives in the corresponding educational plan, and the corresponding curricular programming. It has remained hidden in the curriculum. Initially, most of the programs were aimed at the stage of secondary education, but more and more initiatives are including the earlier stages, thus they not only facilitate the primary prevention of the risks associated with adolescence but they also promote the benefits of the development of positive emotions and strengths from an early age. Examples of well-being programs developed and validated by the research team of the Positive Psychology Center (n.d.) of the University of Pennsylvania, led by Seligman, include the "Penn Resiliency Program", which aims to promote young people's ability to cope with the stressors and problems of daily life, through working with coping strategies, relaxation, decision making, controlling thoughts or assertiveness. Another program is the "Strath Haven Positive Psychology Curriculum" in Philadelphia, which does not aim to prevent difficulties but rather to increase the positive emotions, helping to identify personal strengths and encouraging their use in daily life as well as promoting meaning and purpose in life. In other words, it is a more innovative program, consistent with the framework of positive psychology and far removed from the clinical approach. The first of these two programs has shown, through meta-analysis, its effectiveness in reducing and preventing depression, anxiety, hopelessness and behavioral problems, regardless of the ethnic background of reference (Horowitz & Garber, 2006). The same study showed how the effectiveness depended on the degree of training and supervision of the trainers/teachers and

their level of commitment and adherence to the program. The second program achieves positive results rather than preventive ones because it increases curiosity, the desire to learn, the interest in school, creativity, academic performance, and social skills (Seligman, Ernst, Gillham, Reivich, & Linkins, 2009). We must also mention Geelong Grammar School, one of the oldest boarding schools in Australia, where the same team designed a curriculum that revolves around well-being and where education is divided into three steps (Seligman, 2011): teaching it (discovering and using the personal strengths, developing more positive emotion through gratitude, savoring good memories, overcoming negativity, and the gratification that kindness produces), incorporating it (teachers incorporate it on the playing field, in literature, in individual tutoring, music, physical education, geography or in the chapel) and living it (sharing positive stories in order to spread good feelings). Another program to highlight in Australia is "Bounce Back!" (McGrath & Noble, 2011), aimed at students from kindergarten to the first years of secondary education with the objective of promoting well-being and resilience, or the US program "Smart Strengths" (Yeager, Fisher, & Shearon, 2011), aimed at detecting and enhancing the strengths of children and young people in primary and secondary schools. In Spain, the Happy Classrooms program (Arguís, Bolsas, Hernández-Paniello, & Salvador-Monge, 2012) is the only program specifically aimed at developing positive psychology through work focused on mindfulness and personal strengths in all of the educational stages, with the collaboration of families, and through work in tutorials, core competencies, values and different subjects in the curriculum.

This all reflects a positive transfer of knowledge to the applied field such as the school, but it is still necessary to develop rigorous research at the same time on the validation of the educational innovations that have been implemented, in order to clarify when and how we can be truly effective in achieving our objectives.

A CHANGE WITH DEEP ROOTS

Although working through educational programs that are systematic, progressive, explicit and focused on specific behaviors has been shown to be effective in emotional education (Durlak, Weissberg, Dymnicki, Taylor, & Schellinger, 2011), implementing positive psychology in schools also involves rethinking our own concept of education. It is about opting for an education that puts personal growth and well-being at the center of everyday life, and that permeates the teachers' attitudes, the methodological proposals and every daily moment of positive education (Arguís, Bolsas, Hernández-Paniello, & Salvador-Monge, 2012; Seligman, 2011). In short, "we need to build educational spaces that grow students' individual strengths for their personal and social growth" and for this the school must function as "a dynamic center that transcends its context and extends to the family and society" (Fernández-Berrocal & Extremera, 2009, p.104). At the same time, we must not forget

that we also need the well-being of teachers in order to achieve our educational objectives and to build positive and healthy school climates that facilitate this (Palomera, Fernández-Berrocal, & Brackett, 2008), and all of this requires a profound change in the teacher training plans.

What should we encourage the school to do in order to promote well-being and thus learning in the educational community?

1. **Respect and value happiness:** following the approach of Coll (2010), we must be very conscious of the fact that the articulation between theoretical knowledge and educational practice has important implications for the training of education professionals and the actions that they carry out in their classrooms. That is, the teachers' thinking, both conscious and unconscious, is the guiding and driving force of their educational practice, so if happiness is not a valuable and necessary objective for them, in no case shall they promote actions to develop it in their students. If we value happiness not only as a main objective of education but also as a means of achieving a climate that promotes learning, it should be reflected at the formal level and in the day-to-day life of the center.

2. **Organizational models and methodological stimulants, flexible and varied:** In order to achieve schools that foster happiness and provide quality learning, it is essential to take care of the organizational and methodological conditions that are implemented. It is important that flexibility and democracy reign in the classroom; the students' initiatives must be supported. Assistance and cooperation should be encouraged, and positive and motivating relationship climates must be generated. Various methodologies must be present in order to accommodate the different learning styles, so that each child can demonstrate their strengths. Some methods that facilitate this include cooperative work, project work and play. Cooperative learning allows different ways of thinking and doing in order to reach the educational goal, uniting the strengths that characterize each of us, based on the assumption that not everyone can excel in everything, but together we can achieve higher goals. Project work is flexible and gives autonomy and limelight to the students, largely favoring flow states for all involved, especially if it is related to their daily lives. Greater attention and involvement are also achieved through play, in all ages, especially in childhood, as it forms part of their natural repertoire of behavior and facilitates working towards challenges with fun instead of anxiety. In short, we believe that this way of working can generate a motivating climate in the classroom, create group confidence and at the same time allow the development of fundamental skills for life in today's society. All of this can help children to feel good and also to learn better.

3. **Spaces for happiness:** the classroom must not be the only space for excellence in the school, as there are moments

when the conditions we need for learning are different. Therefore, areas such as the schoolyard, the garden, the library, and the surrounding environment must have a prominent place in the daily practice, since they are ideal places to investigate, and to enrich the students' relationships with their peers and with other adults. It is also important not to "lock ourselves" in our classroom and to open the doors to other colleagues, families and the community.

4. **Time for happiness:** it is important to spend a few minutes a day sharing happy experiences, and remembering and acknowledging the positive aspects we have been fortunate to experience throughout the day. This also means time for fun, since humor and joy are paths to learning. And finally, education must be unhurried, with room for reflection and relaxation. In short, it is extremely necessary to rethink the use of time in school, closely linked to the above points.

5. **Respect for the voices of children:** children must be active participants in their learning process and this means allowing them to make decisions for themselves and take responsibility. This respect for their ideas and preferences will generate great comfort in smaller children. In addition, their curiosity, tastes and interests must be a central axis in the teaching-learning process, therefore it is important to propose open-ended activities that satisfy their need to know, explain, understand and ask questions. From their reflections, children are transmitting that they have a great deal to say about their education, that they are aware of what makes them happy and that they can share their perspective on school. Therefore, we must take their proposals into consideration. We must keep in mind that our conceptions of childhood largely determine the institutions we create for children and the pedagogical work therein. Thus, "We must take children seriously. Active and competent, they have ideas and theories that are not only worth listening to, but they are also worth examining and, where necessary, questioning and challenging" (Dahlberg, Moss, & Pence, 2005, p.87).

6. **The attitude and well-being of the teachers:** the role of adults as role models and mirrors is one of the key factors in education. One of the factors that have the greatest impact on the development of happiness is the modeling and molding to which the child is subjected, mainly by educators, who usually have a direct influence on the child's mindset through the processes of attribution that teachers carry out on the children's behavior or on their own events (Alloy, et al., 2001; Gillham, Reivich, & Shatté, 2002). Therefore, we have to act as positive role models, conveying to children the expectations of achievement and using positive language that speaks of opportunities and generates exciting realities. There are also multiple benefits that positive emotions can bring to teaching because they allow a better relationship to be established with the students, helping to reduce stress, manage conflict, improve participation and study, and communicate the contents more effectively, stimulating the attention, creativity and memory (Fernández-Abascal, 2009). This approach is supported by research examining the effects of burnout on well-being and teaching quality, in particular, various studies that show how burnout negatively influences the performance of pupils and the quality of teaching (Vanderberghe & Huberman, 1999) and how it negatively affects the teacher-pupil relationship (Yoon, 2002). Thus, we must promote the contextual protective factors of teacher well-being such as social support and recognition (Botella, Longás, & Gómez, 2008), which means among other things, respect for their voices and greater participation in decision-making, as well as the promotion of organizational facilitators for teachers through support networks or training tailored to the demands (Arias & Jiménez, 2013; García-Renedo, Llorens, Cifre, & Salanova, 2006)

7. **Prior training:** in order to achieve the above, it is necessary that teachers receive prior training, because we cannot teach what we have not previously learnt (Palomera, Fernández-Berrocal, & Brackett, 2008). In fact, a study by Peterson and Park (2009) related the effectiveness of teaching staff with the strengths of vitality, sense of humor and social intelligence. The training should promote engagement and a resistant personality among teachers using their strengths. This training is not only important so that teachers can go out and enhance strengths and encourage positive emotions in schools, it is also essential that the teachers themselves are happy. In order to achieve this, there already exist pioneering initiatives for teacher training, such as the Master in Emotional and Social Education and Creativity at the University of Cantabria (masteres.unican.es/edesc).

CONCLUSION

In short, the school is the place where both children and teachers have the opportunity to learn and develop the strengths and knowledge that will enable them to adapt to society and achieve personal well-being. Similarly, happiness brings many practical implications in schools. In order for happiness to be considered in schools, it requires the creation and implementation of validated programs to promote it, with consequent changes in the times, spaces (including the architecture and decoration) and methodology. When we make these changes, we not only achieve improved well-being for teachers and students, but we also encourage the learning of other curriculum objectives through pedagogical practices that similarly cater to diversity, as they are more flexible and allow for the inclusion of everyone, including all of our strengths. If we do this, we are promoting quality education.

In this context the teacher is shaping up as the core of the educational community and, therefore, as the coordinator of the whole network of relationships and educational processes that occur therein. It is for this reason that any change must begin with the initial and ongoing training of teachers and the achievement of their own well-being.

We believe that happiness as an educational goal should be included from the beginning of schooling in early childhood education, since the acquisition of values, attitudes and skills emerges fundamentally in the early years of our life. However, although childhood is a great opportunity that we must seize, the learning must be present throughout life. In addition, "When education is systematic, ongoing, and it is exercised in different areas and through the significant agents for the child, it is more effective and generates the true development of competencies" (Palomera, 2009, p.255).

It is strange how, despite the widespread value that is given to happiness, when we reach the reality of education, we have great difficulty investing time in designing an educational plan that facilitates it and this appears as a scientifically established truth, which is formulated through explicit goals (Palomera, 2009). Faced with this situation, our proposal is a commitment to change, and to the promotion of happiness, because this way we create a positive spiral that leads not only to more happiness, through the effect of the benefits associated with this emotion, but also greater learning through positive and healthy relationship climates.

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AN APPROACH TO THE AUTOMATICITY OF EVALUATIVE JUDGMENTS: THE IMPLICATIONS OF AFFECTIVE MISATTRIBUTION IN SOCIAL COGNITION

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El papel que desempeñan los procesos implícitos en los juicios evaluativos es objeto central de la investigación en psicología cognitiva. La presente revisión tiene como objetivo profundizar en las implicaciones del concepto de automaticidad evaluativa para la cognición social, con especial énfasis en los errores en la atribución afectiva, y las teorías de la cognición corporizada. Con este fin, se recapitulan los hallazgos más relevantes en estos fenómenos y se proponen posibles líneas de aplicación fuera del laboratorio. Se concluye que los errores en la atribución afectiva se encuentran operativos en diversos aspectos de la cognición social, por lo que entender su funcionamiento puede ser de mucha utilidad para ciertos ámbitos sociales aplicados.
Palabras clave: Automaticidad, Juicios evaluativos, Cognición social, Embodiment.

The automatic nature of evaluative judgments and, in particular, the role of implicit processes in this type of response is a central theme in cognitive psychology. The purpose of the present review is to explore the implications of the automaticity concept in social cognition, with a special emphasis on two well-documented phenomena: affective misattribution and embodiment. With this aim, we review the most relevant findings in this area, and we propose potential lines of application outside the laboratory. We conclude that affective misattribution is operative in several domains of social cognition, which suggests that our daily life can benefit substantially from a better understanding of how our implicit mind works.
Key words: Automaticity, Evaluative judgments, "Misattribution", Social cognition, Embodiment.

The statement that evaluative judgments ("I like it" or "I don't like it", "it's good" or "it's bad") are made based on the characteristics of the object or perceived situation seems easy to assume. For example, if you consider that something is "good", it is because you have weighed up the pros and cons of the situation and concluded that the former outweigh the latter. If a test is perceived as "very difficult" it is because the content of the questions requires great analytical effort. Put another way, when we make evaluative judgments we feel that our responses are founded on information that is relevant to the situation, but is it really so?

Bargh (1994) proposed that all psychological processes involved in human cognition must be understood as a *continuum* ranging from fully automatic processes (rapid, uncontrolled, efficient and usually subconscious) to completely controlled processes (slower and more easily separated from perception). While the distinction between the two types of process is an academically accepted fact (Kahneman, 2012), it should be noted that the concept of automaticity is unquestionably complex, in the sense that the nature of the factors involved in this type of process is an issue for academic discussion (Moors, 2016). In relation to automatic cognitive processes, it is important to note that although various automated processes are generated by the perception of physical stimuli from the outside world —such as the immediate formation of impressions based on physical characteristics-, others are the result of the perception of internal bodily states. These "preconscious" automatic processes (Bargh, 1989) cover diverse aspects of our psychology such as implicit attitude formation, the generation of stereotypes, consumer behavior, embodiment or moral cognition (see also Bargh, Schwader, Hailey, Dyer, & Boothby, 2012).

Certainly within the modern cognitive sciences, the possibility that most of our evaluative responses are based on preconscious automatic psychological processes seems to prevail in the academic arena. Indeed, understanding the interaction between implicit processes and "visible" cognitive responses has been a topic of great empirical interest in the field of cognitive psychology, to the point that, in recent years, various studies on this subject have increased our understanding of how this type of process works.

ERRORS IN COGNITIVE AND AFFECTIVE ATTRIBUTION: THEORY AND EVIDENCE

One of the principles of Gestalt theory (contiguity) indicates that stimuli perceived in spatial or temporal proximity are often perceived as related (Heider, 1958). Elevated to a more sophisticated level of cognition, this principle seems to remain operational when our mind assumes that the cognitive responses experienced in a given situation are "about" the stimuli perceived in temporal contiguity. Higgins (1998) argues that there is a principle of "aboutness" operating in implicit cognition: the human mind does not interpret cognitive responses as an accidental product; on the contrary, these responses are understood as "about" something, and this "something" is inferred as the cause of the cognitive response.

Consequently, cognitive responses are often perceived as informative in themselves. For example, if a person experiences fear, the experience of this emotion is automatically interpreted as the answer to "something" that is consciously perceived, and that "something" is treated as the cause of the experience of fear. However, empirical evidence suggests that in fact situations in which we are not aware of the real factors that influence our evaluations are very common. In the same vein, some authors believe that introspective access to certain cognitive processes is virtually impossible, because the human mind is not able to deal with all the stimuli that influence cognitive responses (Nisbett & Wilson, 1977).

So occasionally it happens that certain perceptual experiences are detached from their original context and end up exerting influence on both the subsequent information processing and the behavioral responses derived from it. This peculiarity has been addressed as part of the phenomenon of distorted cognitive attribution, according to which our mind attributes cognitive responses to stimuli that are consciously perceived rather than those that are inaccessible to consciousness (Paéz & Carbonero, 1993; Rohr, Degner, & Wentura, 2015).

In this context, evaluative responses appear to be especially susceptible to the influence of metacognitive factors. For example, there is evidence that the level of difficulty with which the information is processed can be perceived as informative in itself, thus influencing the evaluation process. Reber and Schwarz (1999) found that when certain statements were presented in a clearly visible way they were judged to be truer than when they were presented in a moderately visible way. In this line, McGlone and Tofighbakhsh (2000) found that when a series of aphorisms were presented rhythmically, they were judged as truer than when they were presented without rhythm. In addition, it appears that arguments that are easy to remember are more influential than those that are more difficult to remember (Haddock, Rothman, & Schwarz, 1996; Wänke & Bless, 2000), and that discrepancies in the ease with which information is processed influence the severity of moral judgments (Laham, Alter, & Goodwin, 2009).

Indeed, the fact that increasing the fluidity with which information is processed results in more positive evaluations –rather than providing more polarized judgments in general– suggests that some metacognitive experiences could involve a hedonic component. In other words, information that is processed fluidly seems to be accompanied by a positive affective response, which has the ability to influence evaluations of preference (Reber, Winkielman, & Schwarz, 1998; Rubin, Paolini, & Crisp, 2010; Winkielman, Schwarz, Fazendeiro, & Reber, 2003). Following the principle of Higgins (1998), it can be said that the positive affective reaction that accompanies the metacognitive experience (in this case, the ease with which the information is processed) is perceived as "about" the information and in turn it is attributed to the object being evaluated.

Errors in affective attribution in the context of evaluations of preference have been –and continue to be- studied using different conceptual frameworks within cognitive psychology. Schwarz and Clore (1983) proposed the perspective of "affect as information", according to which the human mind uses all relevant criteria available as information when making an evaluation. Specifically, the studies carried out based on this theoretical framework suggest that the human mind tends to make evaluations of virtually every perceived object "consulting" the feelings available at the time of the evaluation. For example, in ambiguous or difficult situations we might ask ourselves implicitly: *How do I feel about this?* (Schwarz, 2011).

Therefore, this perspective understands that feelings themselves are a source of information. Thus, the fact that it is sometimes difficult to distinguish between integral feelings (those generated by the perceived stimulus) and incidental feelings (ones that are not generated by the properties of the emotional stimulus) is a starting point for the explanation of this phenomenon. For example, judgments in which there is hedonic congruence between the person's mood ("happy") and the verdict of the judgment ("positive") can occur because the incidental state of mood is wrongly attributed as part of the overall evaluation of the object. In other words, the human mind often interprets incidental affective reactions as if they were integral affective reactions.

AUTOMATICITY, EMBODIMENT AND SOCIAL COGNITION

Research on automatic evaluative processes has proved particularly fruitful in the field of embodied cognition (academically known as "embodiment"). In this framework, the theories of embodiment argue that complex cognitive processes are fed information from our body, establishing a psychological correspondence between specific physical experiences and more complex social cognitions (Meier, Schnall, Schwarz, & Bargh, 2012; Olivera La Rosa & Rosselló, 2013).

Therefore, this perspective assumes that sensory, motor or perceptual processes have the ability to influence cognitive, affective and behavioral responses. Indeed, the enthusiasm that this research seems to have generated in academia has led to the production of various studies, which (for the most part) from a more "descriptive" than "explanatory" perspective have produced dramatic results.

For example, it has been documented that adopting postures associated with approach behavior generates more positive judgments than adopting postures involved in avoidance behavior (Cacioppo, Priester, & Berntson, 1993). Similarly, the action of backing off physically increases the tendency towards controlled information processing (Koch, Holland, Hengstler, & van Knippenberg, 2009). Physical distance also appears to be related to emotional distance: participants in whom the concept of "physical proximity" had been activated reported a greater intensity in their negative responses to a topic of discussion than those participants in whom the concept of "physical distance" had been activated (William & Bargh, 2008b). Wells and Petty (1980) found that the simple act of making head movements (nodding and shaking the head) had the ability to influence the evaluative judgments of participants in a way that was consistent with the hedonic component of the movement made (positive and negative, respectively).

In a classic study, Bargh, Chen, and Burrows (1996) found that mentally activating the concept of "rudeness" in the participants increased their tendency to interrupt an experiment, whereas activation of the concept of "old age" influenced the way they walked. Specifically, it made the participants walk more slowly as they left the premises of the experiment. However, it is prudent to

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note that the strength of the effects of embodiment on cognition and behavior has been questioned by some authors (Pashler, Coburn, & Harris, 2012). In particular, recent results suggest that these effects are highly sensitive to the influence of situational variables belonging to the experimental context (Cesario, Plaks, Hagiwara, Navarrete, & Higgins, 2010; Doyen, Klein, Pichon, & Cleeremans, 2012).

The influence of moral cognition in embodiment has been a topic of particular interest over the last decade. There are several studies that suggest that when we think in terms of moral purity and impurity there is indeed a physical correspondence with these states. For example, Zhong and Liljenquist (2006) found that when participants reminisced about immoral actions from their past, they showed a greater interest in cleaning products, and a greater willingness to use them. In the same study, the authors found that the feeling of physical cleanness reduced the negative affective experience involved in perpetuating immoral behavior. In the same vein, it was documented that the preference of the participants for hygiene products for the mouth or the hands was susceptible to experimental manipulation, which consisted of inducing them to lie orally or in writing (Lee & Schwarz, 2010).

The influence of embodiment in moral cognition has been reinforced by a series of studies that suggest that the severity of moral judgments is affected by the experience of physical disgust. Indeed, the experience of disgust induced by post-hypnotic suggestion (Wheatley & Haidt, 2005), disgusting smells (Schnall, Haidt, Clore, & Jordan, 2008) and flavors (Eskine, Kacinik, & Prinz, 2011) automatically increased the severity of moral judgments. The evidence even suggests that the incidentally-induced experience of disgust increases prejudice towards people with homosexual orientations (Dasgupta, DeSteno, Williams, & Hunsinger, 2009; Inbar, Pizarro, & Bloom, 2011). In addition, Skarlicki, Hoegg, Aquino and Nadisic (2013) found that the perception of a disrespectful interpersonal interaction (which undermined one's dignity) generated responses characteristic of repugnance, both in victims and observers of the conduct.

As mentioned above, the interest in documenting bodily-cognitive connections seems to have imposed itself over the need to explain the mechanisms involved in these phenomena. However, it should be noted that while there is no academic consensus to explain the influence of embodiment in cognition, there are various positions on the matter (with different nuances). On the one hand, while some authors claim that bodily responses facilitate the accessibility of abstract concepts and therefore are sufficient to generate cognitive and behavioral effects (Chandler & Schwarz, 2009), other authors argue that the corporeal component is necessarily involved in different aspects of cognition (Barsalou, 1999; Wilson, 2002).

The research into the automatic component of embodiment has been complemented with research carried out on the effects of appraisal in other domains of cognition (Lerner & Keltner, 2001; Han, Lerner & Keltner, 2007). Within this framework, emotions are understood as affective responses linked to specific cognitive valuations (appraisals) that reflect the core meaning of the emotional event (Lazarus, 1991). Moreover, the specific patterns that constitute the appraisal of each emotion have the ability to

influence evaluative judgments in a manner that is consistent with the characteristics of the cognitive patterns involved (Horberg, Keltner, Oveis & Cohen, 2009).

For example, it has been documented that exposure to threatening factors increased the sensitivity of the population to perceive danger signals, thus favoring the occurrence of fear responses (Bar-Tal, Halperin, & Rivera, 2007; see also Halperin, Sharvit, & Gross, 2011). Lerner and Keltner (2000, 2001) found that the predisposition of certain individuals to experience fear or anger is a differentiating factor in the evaluation of risk. Thus, while the former had a tendency to make pessimistic evaluations, the latter opted for optimistically biased evalutions. These results are consistent with the appraisal of both emotions: while the emotion of fear is associated with appraisals of uncertainty, the emotion of anger involves individual control of the situation (Smith & Ellsworth, 1985).

In the same vein, a central component of the appraisal of anger is the attribution of agency. For example, while a certain undesirable event will cause the emotional response of anger if it is perceived as caused by others (attribution of agency) the same event will generate sadness if it is perceived as being caused by uncontrollable circumstances (Scherer, 1999). Indeed, Keltner, Ellsworth and Edwards (1993) found that participants who were exposed to an induction of anger showed a greater tendency to evaluate a series of negative events as being caused by others, while the induction of sadness caused the same events to be attributed to situational factors. It even seems that the subliminal perception of facial expressions of the two emotions generates a similar effect on the attribution of agency (Yang & Tong, 2010).

THE AUTOMATICITY OF EVALUATIVE JUDGMENTS: PRACTICAL IMPLICATIONS

Indeed, research on the automaticity of evaluative judgments has implications in areas of particular relevance for everyday life. While it is true that more ecologically valid studies are still required in order to be able to compare the extent of this phenomenon in "real" situations, the studies to date allow us to establish some important lines of application. In this context, this section aims to review some of the most important findings in three areas that we believe can particularly benefit from this line of research.

Consumer psychology

One of the areas that has most benefited from the new findings in cognitive automaticity has been consumer psychology and branding (Olivera La Rosa & Rosselló, 2014b). Indeed, it is clear that in recent years there has been a growing interest in empirically investigating different aspects of consumer psychology. Interestingly, the effects of incidental stimuli have been reported both at the evaluative level and at the behavioral level.

For example, a widely documented phenomenon in cognitive psychology argues that repeated exposure to a given stimulus generates favorable attitudes toward it (Zajonc, 1980). This phenomenon, known as the effect of "mere exposure" has proven to be highly applicable to the study of the consumer. Consequently, evidence has been found to prove that just hearing the name of a brand once was sufficient to later increase its perception of solidity

(Holden & Vanhuele, 1999). The mere exposure effect has also been documented on the Internet: brief exposure to advertisements left traces in memory even when the participants reported having "forgotten" the images (Pêtre, 2005). In the same vein, there is evidence that the fluidity with which the information is processed has a positive effect on both the preference for new products (Brakus, Schmitt, & Zhang, 2014) and the choice of purchase (Herrmann, Zidansek, Sprott, & Spangenberg, 2013).

The viability of subliminal advertising has also been addressed empirically. For example, it has been documented that subliminal exposure to verbs related to an action ("trust") improved the evaluation of a persuasive message (Légal, Chappé, Coiffard, & Villard-Forest, 2012), that the implicit processing of an auditory stimulus improved the attitude toward an advertisement (Perfect & Edwards, 1998), and that the subliminal perception of the name of a brand of beverage increased the preference for the brand in question and the intention to consume it (Karremans, Stroebe, & Claus, 2006).

Complementing these findings, there is evidence that the implicit processing of stimuli associated with certain brands can generate behavioral responses related to their essence. Indeed, it has been documented that subliminal exposure to the logos of Apple, Disney and Red Bull increased the tendency of participants to behave more creatively, honestly and recklessly (respectively) (Brasel & Gips, 2011; Fitzsimons, Chartrand & Fitzsimons, 2008).

Given the importance of the recent findings on this subject, it is not surprising that implicit measures of brand are currently in the process of being progressively incorporated into the field of branding and consumer study. However, we should be cautious when considering the practical implications of the empirical research carried out to date. For example, the fact that the aforementioned experimental designs have been limited to identifying short-term effects leaves open the question concerning the duration of the effects, which is an essential issue for potential implementation.

Law

The fact that incidental affective responses have the ability to influence evaluative judgments has serious implications in the legal field, traditionally based on a rational paradigm. Since the empirical evidence mentioned seriously questions this assumption, some authors have expressed the need to pay greater attention to cognitive discoveries in legal practice (Barsky, Kapla, & Beal, 2011; Fernández, Marty, Nadal, Capó, & Cela-Conde, 2005).

However, there are still many outstanding questions to explore, especially regarding the practical significance of the results obtained in the laboratory. Bearing in mind the provisional nature of the data, the state of the question suggests that affective responses –both comprehensive and incidental– influence evaluations of legal responsibility (for a review, see Feigenson, 2016). For example, one study found that the psychological experience of power increases the severity of the punishment to transgressors. In particular, the results of Wiltermuth and Flynn (2013) suggest that the increased severity of punishments is due to

the sense of "moral superiority" in the perpetuators and not the perception of the transgressions as more immoral (see also Williams, 2014). It has also been documented that jurors who had been induced to experience the emotion of anger made harsher attributions than those who were in a relatively neutral emotional state (Lerner, Goldberg, &Tetlock, 1998). Some results even suggest that briefly seeing negatively shocking images reduces the severity of moral judgments (Olivera La Rosa & Rosselló, 2012) and that subliminally presented erotic pictures increase the acceptance of harm for a greater good (Olivera La Rosa et al., 2016). Future studies should address this problem from a more ecological approach, considering, for example, the time course of the influence of incidental affect in decision-making.

A topic of special interest in this area is that referring to the condition of psychopaths in the legal system. Psychopathy is characterized by symptoms such as empathic deficits, an inability to experience certain "moral" feelings, a more positive attitude toward violence and a tendency toward manipulative behavior and lies, among others (Hare, 2003). These peculiarities have highlighted the suitability of using implicit procedures to study this disorder (Suter, Pihet, De Ridder, Zimmermann, & Stephan, 2014). From this perspective, a recent study found that implicit negative attitudes towards violence were closely related to adaptive social behavior and antisocial facets of psychopathy (Zwets et al., 2015). Future studies should examine these issues through implicit procedures, in research conducted with other psychopathological disorders (Roefs et al., 2011).

Prosociability

Understanding how automaticity and errors in cognitive and affective attribution work can undoubtedly be useful for research in prosocial behavior. Indeed, several studies have found that prosocial responses can be influenced by experimental inductions. For example, Oveis, Horberg and Keltner (2010) found that while the experience of compassion favors the feeling of similarity with those we perceive as "weak", the experience of pride generates the same empathic effect toward those whom we identify as "strong". Furthermore, it appears that the emotional experience of "elevating" (which is described as a positive emotion generated by the perception of a virtuous act; Haidt, 2003) induced experimentally has the ability to increase the motivation to help others (Schnall, Roper, & Fessler, 2010).

It is worth mentioning here an empirically well-documented effect: the feeling of being observed increases the levels of prosocial behavior (Gervais & Norenzayan, 2012; Norenzayan & Shariff, 2008). In this context, a line of research that has attracted special interest in the field of cognitive psychology is the study of the relationship between religion and prosociality. While the results are sometimes contradictory, the state of the question favors –in general terms– that the activation of religious concepts induced experimentally produces ambivalent effects: while on the one hand it increases prosocial tendencies towards those perceived as group members, at the same time it emphasizes the perception of difference with members of other groups (Galen, 2012; McKay & Whitehouse, 2015; Thomson, 2015).

From another perspective, it has been documented that mentally activating the notion of "group" in participants significantly reduced their commitment to assist in a behavioral task (Scaffidi Abbate, Boca, Spadaro, & Romano, 2014). Within the scope of the work ethic, it seems that decisions in this context can be influenced by environmental factors that are inaccessible to conscious processing. A multicultural study found that participants who were activated in the concept of "rudeness" perceived a series of work scenarios as more ethical than participants who were activated in the concept of "courtesy" (Nolder & Riley, 2013).

The research conducted within the framework of embodiment has also provided interesting results in this area. On the one hand, studies on the influence of incidental affective stimuli in prosociality have produced striking results, finding for example that the smell of certain cleaning products encourages reciprocity and charity (Liljenquist, Zhong, & Galinsky, 2010). On the other hand, there are various studies that have documented the fact that experiencing physical contact increases prosocial behavior (Kleinke, 1977; Vaidis & Halimi-Falkowicz, 2008). In this line, it has been shown that the physical feeling of "warmth" is related to the perception of interpersonal "warmth". For example, briefly holding a hot drink increases the perceived "warmth" of a particular personality (as opposed to holding a cold drink) (William & Bargh, 2008a) and recalling an experience of social rejection or inclusion affects the perception of the environmental temperature (lowering or increasing it, respectively) (Zhong & Leonardelli, 2008). It even seems that the feeling of social rejection can reduce body temperature (IJzerman et al., 2012).

Finally, it is noteworthy that although the reviewed studies have provided suggestive results for research in prosociality, there is still a long way to go in discussing its viability in a non-experimental context. As in the case of the areas identified above, it is the task of future research to solve this pending issue.

CONCLUSIONS

Our implicit mind seems to work with its own laws. The empirical evidence collected in recent decades favors, conclusively, the characterization of our evaluation processes as predominantly automated processes susceptible to the influence of incidental variables. In this context, the special interaction existing between bodily states and psychological states defines various aspects of social cognition, constituting a factor that facilitates the presence of errors in affective attribution. Indeed, the ubiquity of this phenomenon in the evaluation processes is a challenge for research in cognitive and social psychology, as different areas of everyday social life can benefit from a better understanding of the underlying mechanisms.

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IF LIFE GIVES YOU LEMONS, MAKE LEMONADE. GIVING MEANING TO LIFE WHEN STRESS AND ANXIETY COMPLICATE IT
López, E. y Costa, M.
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In times of tension, publications, courses, therapies, drugs and commercial inventions abound (some with scientific basis and others without), inviting us to live without stress (without fear, overwhelm, sadness or "nerves", etc.) or at least keep our stress levels under control, as something feasible and of course desirable, however Ernesto Lopez and Miguel Costa offer us the exact opposite: to learn to live with stress (with fears, overwhelm, etc.) Even more, the authors suggest that we contemplate stressful life situations, and the discomfort that they trigger, unavoidable as they are, as an opportunity, based on the acceptance of this suffering, to guide us to take practical action, *despite the stress*, towards the objectives that we consider valuable and that give meaning to our lives. This approach, which is found within *contextual therapies* or *third generation therapies*, and especially in *acceptance and commitment therapy*, inspired the book that I'm reviewing here.

Stress, far from being defined here by activation, anxiety or distress (which are inherently linked to life), is defined as a type of situation that one experiences, a way of relating to the environment, a contingency system based on negative reinforcement (experiential avoidance), which alleviates in the short term but leads to an impoverishment of the life repertoire and a deepening in discomfort. The problem is not in the suffering, but in the counterproductive actions that are implemented in the vain attempt to alleviate it. This approach is not intended to merely eliminate or relieve distress, but rather as the book's subtitle says, to *give meaning to life when stress and anxiety complicate it*. In my view, this change of objective has enormous depth. Firstly, because it considers that suffering is part of life and not something *we should not have*, despite the fact that the approach of psychopathology and its commercial derivations insist on useless and counterproductive efforts to suppress it, so the objective cannot be any other than acceptance. As the poet Ángel González (quoted in the book) says, you need to be very brave to live in fear. Secondly, this change of objective is important because it confronts those of us

who experience stress with a question of great importance: *what you want to do with your life?* Or, if you like, *what things are important to you?* Or, in more operational terms, *what are the goals that give meaning to your life and are worth starting despite the difficulties?* In the therapeutic situation the question of personal values arises, perhaps in a different way –easier to answer–, but substantially it is this: it is like learning to live in a different way, guided by what really matters to one (and this is different for each individual) and not by the everyday and useless combat against discomfort. Wow!

Based on this general approach, set out in the introduction to the book, in Chapter 1 (*Como la vida misma [Like life itself]*) a transactional concept of stress is developed, defined as the result of the imbalance between the sources of stress and the coping resources. According to this transactional vision, an overview is offered of the main sources of stress (stressful events, more and less predictable life changes, illness) and especially of the variables that make an event more or less stressful (imminence, duration, uncertainty, predictability, lack of control, ambiguity). A refreshing review is also included of the basic paradigms of learning (vicarious, classical, instrumental and in the relational framework), which are central to understanding this phenomenon but are often forgotten in other texts.

With the transactional concept of stress established, Chapter 2 (*Un torrente de energía que nos hace vivir y nos puede hacer sufrir [A torrent of energy that makes us live and can make us suffer]*) is a concise, clear and attractive overview of the complex physiological processes involved in the stress response, their adaptive value, and at the same time, the potential health problems that can occur in the various systems of our body.

If the problematic element of the experience is stress avoidance, as established at the beginning of the book, the strategy to follow in order to live with it and suppress its limiting effects is precisely *exposure* and *active coping*. The rest of the book is devoted to developing the particular aspects and the clinical implications of this strategy.

Thus, Chapter 3 (*Exponerse y afrontar: obras son amores [Exposure and coping: works are love]*) is dedicated to exposure to the sources of stress. First of all, it is important to stress that this exposure to stressors and *private events* does not only seek the elimination of conditioned anxiety responses, as occurs in

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classical behavior therapy (a limited and negative objective because it seeks to remove something) but also to send the individual in the direction of what he or she considers valuable in life (a broad and *positive* objective because it seeks to build a direction, a course of action). Unlike the model of the cognitive behavioral approach (change the thoughts in order to change the act), the primordial role of action is insisted upon, which alters the system contingencies: behavioral change occurs precisely by changing the behavior. The chapter includes a welcome review and several practical guides to refresh the knowledge of the old techniques of "first generation" behavior therapy, such as systematic desensitization or flooding.

Chapters 4 and 5 are oriented along the same lines. Chapter 4 (*Si la vida nos da limones, hagamos limonada [If life gives you lemons, make lemonade]*) discusses exposure and acceptance of the physiological and emotional aspects of the experience of stress. Chapter 5 (*El poder de las palabras y sus verdades y mentiras [The power of words and their truths and lies]*) covers the role of language, which due to its ability to replace the direct experience can be a help but also a trap. It can be a trap because it can be a source of stress, but above all, because it can have a paralyzing effect on action. Consequently, it is about questioning the literalness of certain verbal rules (the "shoulds", the "needs" and the "ifs", etc.) and, once again, exposing oneself to real contingencies. The chapter concludes with a guide for self-instructional training.

The context is largely the social context, formed by the people with whom we live and with whom we communicate, with greater or less luck and skill. Learning to live with the sources of stress involves particularly learning to handle social situations. Interpersonal communication can be an intense and pervasive source of stress, but it can also be a buffer for stress, which leads us to consider the vital role of personal skills for interpersonal communication. Chapter 6 (*Comunicarse para afrontar el estrés [Communicate to cope with stress]*) is dedicated to developing this issue that is so crucial. Far from the orthopedic approaches, it is the biographical and contextual nature of behavior that allows us to understand the meaning of the core strategy of validation and the principle of interdependence. It includes an invaluable practical guide, of some length, to enhance basic communication skills such as listening, empathy, expressing agreement, knowing how to say no or managing criticism and expressing emotions.

If stress is a transaction between the context and the individual, one of the pillars for coping with it is by making changes in the environment. The whole of Chapter 7 (*Rediseñar el ambiente, rediseñar la vida [Redesigning the environment, redesigning one's life]*) is a practical guide on how to intervene in contexts in order to live better with stress: by reducing or eliminating the sources of stress, leaving the situation, seeking information on the source of stress, redesigning the home, redesigning organizations or workplaces, organizing the agenda, delegating etc. and, from a more general perspective linked to behavioral activation therapy, procuring a healthy lifestyle, full of lovers, that makes life richer and more satisfying.

Finally, Chapter 8 (*Respirar hondo, relajarse y dejarse estar [Taking a deep breath, relaxing and letting yourself just be]*) is a very detailed practical guide on breathing and relaxation techniques, along with an invitation to mindfulness and enjoyment of the present moment, in line with the approach of mindfulness.

It is, therefore, a concentrated self-help manual related to stress, in which each issue covered is linked to the model and the general strategy outlined in the first chapters. From there, it goes on to offer an abundance of practical guides, such as the ones already mentioned. Each of these guides is an invaluable effort of synthesis, sometimes one or two pages long, of the key practical issues to consider when performing a particular procedure. I would like to emphasize that the practicalities are "intertwined" throughout the theoretical development, going fluidly from theory to practice because both dimensions, far from being opposed, involve each other: the theory is the guide to action, and action builds theory. Nothing to do, therefore, with recipe books.

On this matter, the restoration, almost the rescuing, of the techniques learned in the first manuals of the 1960s and 70s is notable. These techniques constitute what is now known as first generation behavior therapy (systematic desensitization, flooding, participant modelling, stress inoculation, assertiveness training, relaxation, environment enrichment, etc.) although they are now incorporated, with renewed shine and in a different context, but with the same conceptual coherence, into the third-generation therapies (Acceptance and Commitment Therapy, Behavioral Activation, Mindfulness, etc.)

Finally, I cannot resist making a reference to the relationship between the book and the biography of the authors, who are still young but already in the *age of jubilation*, as they like to say. Apparently Pablo Picasso once said it had taken him a *lifetime to learn to draw like a child*. I believe this idea is applicable to this book. Throughout the whole book there is a flavor of a living thing, something practiced, ideas born out of action, and action in various fields of application of psychology. Somehow this book is the result of a process of "distillation" (I cannot think of a better metaphor), in which the knowledge accumulated about stress, the science of behavior, therapy and various other issues has passed through the alembic of the experience of the authors and they have produced this result. It requires a long and personal professional and productive journey to be able to communicate so simply, so accurately and in such an enjoyable way. I believe that without this biographical baggage it would not have been possible to write this book, at least not in this way. It is noteworthy, for example, that the book lacks a bibliography, and literary references (Kipling, Carroll, Cervantes, Salinas, Quevedo, Confucius, Machado, Borges, Kafka and many others) are more abundant than scientific ones (all solid and well chosen), and that both types are integrated effortlessly within the flow of the current text.