

THE SCIENCE AND PHYSIOLOGICAL BENEFITS BEHIND PURPOSEFULLY CHOOSING POSITIVE THOUGHTS

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ABSTRACT

In an effort to strengthen conceptual foundations of eudaimonic well-being, key messages from Aristotle's *Nicomachean Ethics* are revisited. Also examined are ideas about positive human functioning from existential and utilitarian philosophy as well as clinical, developmental, and humanistic psychology. How these perspectives were integrated to create a multidimensional model of psychological well-being [Ryff, C.D.: 1989a, *Journal of Personality and Social Psychology* 57(6), pp. 1069–1081] is described, and empirical evidence supporting the factorial validity of the model is briefly noted. Life course and socioeconomic correlates of well-being are examined to underscore the point that opportunities for eudaimonic well-being are not equally distributed. Biological correlates (cardiovascular, neuroendocrine, immune) of psychological well-being are also briefly noted as they suggest possible health benefits associated with living a life rich in purpose and meaning, continued growth, and quality ties to others. We conclude with future challenges in carrying the eudaimonic vision forward.

Keywords: Psychological Health, Positivity, Cognitive/Cognition, Collaboration, Denial of Illness

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BETTER ASSESMENT OF PSYCHOLOGICAL HEALTH

The psychological impetus behind denial of mental illness is readily understandable. Mental illness carries a huge stigma. Even people who do not purposely deny the illness they know they have may unconsciously do so for the very same reason as the conscious deniers. One brings shame upon oneself, so to speak, by admitting to the illness. Also, quite apart from what others think, mental illness is a huge narcissistic injury. One feels lesser, damaged. So, there are very understandable reasons to deny one is mentally ill. Note, too, that such feelings of injury may be present and coexist with any biological correlates. (Many today want to conceptualize denial as “anosognosia,” which they assert to have a biological basis. But doesn’t all mental activity?) The question arises, though, of how a person really could deny her illness in the face of flagrant symptoms. What does she tell herself? Here I will draw on my own experience as a person with schizophrenia who denied for decades that she was ill, even in the face of many, many episodes of clear psychosis. I completely recognized that the things I was saying and doing and feeling would be thought to amount to a diagnosis of schizophrenia; but I thought that it was not true—I didn’t really have the illness. What did I tell myself to come to this conclusion? There were three different things. First, I thought that even though people wouldn’t admit it, everyone’s mind contained the chaos, violence, confusion, and scary beliefs that mine did. They were all just much better at managing it than I, and more polite in what they said. So, my problem was not that I was mentally ill, but just that I was socially maladroit. The second thing I told myself was rather different: while I looked mentally ill, if we knew enough, we would see that I really was not. I reasoned that it was like lumps in the breast before the advent of biopsies. If you had a lump in your breast, the doctor might have told you that you have (or might have) breast cancer, but the good news is that some people with these lumps do fine—no further growth, no effect on life expectancy. So, my thinking went, I looked like I had schizophrenia—as the woman looked like she had breast cancer—but if we knew enough, we would see that I really did not. The third thing I told myself was that I did not have an illness because all of my so-called symptoms were things I simply chose to think or do. I was choosing, for example, to hold certain beliefs even though the evidence was not what would classically constitute “good” evidence—I had a special premium on the truth. The illness was not something happening to me, but something I was “*doing*.” How did I eventually come to accept that I had schizophrenia? The first of my three rationales went by the wayside when I was

treated with a new drug, olanzapine, that cleared my thoughts and mind in a way the earlier drugs hadn't. And then I got on clozapine, which held me even more. It then occurred to me that probably many people had clear minds like this and I was not just being socially maladroit.

Data-Driven Interventions

Clinical interventions are often focused on psychopathology and problem solving; after all, most people seek psychotherapy because of problems they would rightly like to solve. Although possibly counterintuitive, the premise underlying positive psychological interventions (PPIs) is that one can change behavioral problems without directly addressing them. By promoting well-being, PPIs can soften the impact of negative events by providing individuals with tangible evidence of the good in their lives (Seligman, Rashid, & Parks, 2006). Originally designed to bolster the well-being of the general public, PPIs have now been successfully applied in clinical settings as adjuncts to other treatments for mental disorders (Parks, Kleiman, et al., 2015) and as a solitary approach (Seligman et al., 2006). Although largely rooted in the long-standing humanistic tradition, PPIs are more specific and have a strong base of research evidence for their efficacy and ease of implementation. In this chapter, we provide an overview of PPIs—their core applications, central limitations, principal methods, research evidence, and landmark contributions.

De-Stigmatization

Theories of eudaimonic entertainment and destigmatization concur to suggest that empathic feelings elicited by portrayals of Paralympic athletes can increase audience interest in para-sports and can lead to prosocial attitude change toward persons with disabilities in general. Three experiments were conducted to examine this dual, mutually reinforcing function of empathy in promoting public awareness and destigmatization. Participants watched television spots about the Paralympics that elicited different levels of empathy. As expected, structural equation modeling revealed indirect effects of empathy on audience interest, attitudes, and behavioral intentions that were mediated by elevation and reflective thoughts (Studies 1 and 2), and by feelings of closeness, elevation, and pity (Study 3). Mediation effects were positive for reflective thoughts, elevation, and closeness, but were negative for pity. Results are discussed with regard to problematic effects of pity, and concerns that elevating “supercrip” narratives might lead to negative perceptions of persons with disabilities in general.

Awareness and empowerment:

Among the various chronic diseases, cancer is the leading cause of death in the world. The process of how cancer patients are being enabled and strengthened to overcome powerlessness based on the individual interactions brought us to the conclusion that in times of severe problems, patients need to be empowered to make a few gut decisions. Interviews were analyzed using constant comparison. The basic social process of empowerment included finding meaning in life, seeking mastery over illness, and acceptance of illness. This study's unique findings suggest that the process of empowering cancer patients consists of more than giving patients control, choice, or resources, such as knowledge and skills. Nurses have an important role in facilitating patients to find meaning in life, as well as in the transformation of thoughts and attitudes. Nurses' personal qualities and skills embedded in the nurse-patient relationship constitute an important source of empowerment for patients.

Access to treatment:

In order to assess the impact of cancer diagnosis on several psychological dimensions, this study was undertaken with the aim to understand, identify and document the psychological responses of cancer patients - their common thoughts, feelings, body sensations and behavior when they faced the cancer diagnosis. The sample consisted of 80 patients who attended psychological lectures during the implementation of the European Educational Programme (EEP) "Learning to live with cancer". At the beginning of the lectures, the patients were asked to fulfill the self-describing questionnaire with 4 open questions: "Describe your common thoughts, feelings, behavior, and body reactions in the first 6 weeks when you learned that you were affected by cancer". The sample consisted of 80 patients who attended psychological lectures during the implementation of the European Educational Programme (EEP) "Learning to live with cancer". At the beginning of the lectures, the patients were asked to fulfill the self-describing questionnaire with 4 open questions: "Describe your common thoughts, feelings, behavior, and body reactions in the first 6 weeks when you learned that you were affected by cancer".

Diagnosis:

The diagnosis of cancer and cancer treatment can cause distress, emotional turmoil and different psychosocial disorders. Taking into consideration different psychological reactions of cancer patients can be helpful for organizing adequate psycho-educational and psychosocial support, and psychotherapy for cancer patients and their families.

APPLICATION OF THE POSITIVE THOUGHTS IN A BIOLOGICAL AFFAIR

The first few months after a baby's birth are a critical period for parents and infants to establish a long-term emotional bond ([Winnicott, 1956](#); [Ainsworth, 1979](#); [Porter and Hsu, 2003](#)). Furthermore, the quality of parental care during these months has been established to have an enduring influence on the child's socioemotional development ([Bornstein, 2002](#); [Feldman, 2007a, 2015](#)). Neuroimaging of new mothers and fathers during this critical period suggest that heightened neural sensitivity to infant-related stimuli are associated with parents' behavioral and emotional sensitivity toward their infants ([Barrett and Fleming, 2011](#); [Moses-Kolko et al., 2014](#); [Rilling and Young, 2014](#); [Swain et al., 2014b](#)). These findings indicate the importance of specific aspects of psychological adjustment to parenthood and changes in the parental brain during the early postpartum period because they may contribute to predict later infant outcomes. The current longitudinal study addresses these issues by investigating the relations among postpartum parents' neural sensitivity to own infant's cry sounds, their concurrent thoughts and behaviors, and their perceptions of their infants' subsequent socioemotional outcomes. In addition, this study investigates similarities and differences among these associations in mothers and fathers – thus addressing the paucity of brain research on fathers ([Swain et al., 2014a](#)).

During the first few months after birth, infants are sensitive to the quality of parenting and caregiving has long-lasting effects on socioemotional competencies and stress regulation ([Essex et al., 2002](#); [Hostinar et al., 2014](#)). Animal models indicate that caregiving quality during the first 10 days leads to epigenetic changes in offspring stress regulation. Offspring who receive low quality maternal care during this very early period of life exhibit increased stress reactivity and anxiety compared to offspring who received high quality maternal care all

the way through to adulthood ([Meaney, 2010](#)). In humans, maternal sensitivity during the first few months after birth has been associated with infant physical and emotional stress reactivity and emotion regulation several years later ([Feldman, 2007a](#); [Lupien et al., 2009](#); [Landers and Sullivan, 2012](#)). Although current research on paternal care is more limited, the quality of father-infant interactions during the first year of the infant's life has also been associated with emotional and social development in infants, young children, and adolescents ([Feldman and Masalha, 2010](#); [Feldman and Bamberger, 2011](#); [Lamb and Lewis, 2013](#); [Ramchandani et al., 2013](#)).

The early postpartum period is also noteworthy for its importance in the establishment of long-term emotional bonds between parents and infants as evident in parent brain physiology. During this period, human mothers and fathers exhibit dynamic neurobiological plasticity ([Kim et al., 2010a, 2014, 2015](#); [Pereira and Ferreira, 2015](#)). Voxel-based morphometry analysis reveals that human mothers exhibit structural growth, indicated by increased gray matter volume, in several brain regions, including those involved in maternal motivation and reward processing such as the striatum, amygdala, hypothalamus, and the substantia nigra from the first month to 3–4 months postpartum ([Kim et al., 2010a](#)). Structural growth has also been noted in neural areas involved in processing sensory information and empathy, including the superior temporal gyrus, thalamus, insula, and pre- and post-central gyri. Finally, the inferior and medial frontal gyri, as well as the anterior cingulate cortex, regions associated with regulating emotions, also show structural increases. Functional magnetic resonance imaging (fMRI) studies provide converging evidence, with mothers showing increased activations in similar brain regions during the first few months postpartum in response to infant-related stimuli including cry sounds, pictures, and videos ([Lorberbaum et al., 2002](#); [Nitschke et al., 2004](#); [Kim et al., 2010b, 2011](#); [Landi et al., 2011](#); [Barrett et al., 2012](#)).

Like mothers, longitudinal changes from the first month to 3–4 months postpartum in human fathers' brains have been examined using voxel-based morphometry analysis ([Kim et al., 2014](#)). Fathers also exhibit anatomical growth in the amygdala and striatum (including putamen and caudate), regions associated with parental motivation, and the lateral prefrontal cortex and insula, regions involved in emotion regulation and social information processing. Recent fMRI studies also suggest that fathers increased brain responses to baby stimuli in these brain regions during the early postpartum period ([Atzil et al., 2012](#); [Kuo et al., 2012](#); [Mascaro et al.,](#)

2013, 2014; Abraham et al., 2014). For example, during 2–4 months postpartum, fathers also show increased activation in prefrontal and striatal brain regions in response to their own infant images (Kuo et al., 2012).

Thus, the early postpartum period is a sensitive period for parents to undergo neural changes that support close emotional relationships with infants, which then support positive socioemotional development in infants. Moreover, in a published study (Kim et al., 2013), we demonstrated that parenting-related cognition and actions during the transition to parenthood also play a role in sensitive parenting behaviors among mothers and fathers. At the first, then again 3–4 months postpartum, mothers and fathers were asked about their parenting-related thoughts and actions using a semi-structured interview, the Yale Inventory of Parental Thoughts and Actions-Revised (YIPTA-R) (Kim et al., 2013). From the first month to 3–4 months postpartum, both mothers and fathers exhibited a decline in their anxious and intrusive thoughts about parenting and infants, but an increase in their positive thoughts about parenting and infants. Also, at 3–4 months postpartum, higher levels of maternal anxious and intrusive thoughts about parenting and infants were inversely related to sensitivity during interactions with infants. For fathers, higher levels of anxious and intrusive thoughts at 3–4 months postpartum were positively associated with paternal sensitivity, suggesting that their worries and concerns may motivate more involvement, at least in this low-risk sample. Thus, this study provides evidence of links between parenting cognition and parenting behaviors, but little is known about whether parenting-related thoughts can be related to parental neural responses to own infant stimuli during the early postpartum periods, and the implications for infants' later outcomes.

To address this gap in the literature, the current study recruited new mothers and fathers and interviewed them about their parental thoughts, twice during the early postpartum period - at the first month and three to 4 months postpartum. First, we identified specific parental thoughts that are associated with the infant's subsequent socioemotional outcomes at 18–24 months postpartum as perceived by their parents. Postpartum negative mood was included as a covariate to examine the unique effects of parenting-related thoughts on infant socioemotional outcome (as reported by the parents), independent of parental mood. Next, we investigated whether parental thoughts at the first vs. later (3–4 months postpartum) time points would better predict their perceptions of their infants' subsequent socioemotional functioning, as a step in

identifying sensitive time windows of parental adjustment and caregiving behavior. These analyses permitted us to focus on specific cognitive aspects of parenting at particular postpartum time points and their associations with positive infant outcomes. In the next step we examined the associations among parental thoughts and parental neural sensitivity to infants. Mothers and fathers participated in an fMRI scanning visit, during which their neural responses to own and unfamiliar infant cry sounds were assessed at the first month postpartum. We examined whether neural responses to own infant cry vs. unfamiliar infant cry sounds were associated with parental thoughts in mothers and fathers. We hypothesized that positive and negative thoughts about parenting and infants would be associated with neural regions particularly involved in reward/motivation and emotion regulation in mothers and fathers. Finally, mediation analyses were conducted to examine the indirect effects of parental thoughts on later infant socioemotional outcomes via parental neural sensitivity to own infant stimuli.

CONCLUSION

Although it is an important developmental transition for a family, little is known about the neurobiological, cognitive and emotional reactions couples experience as they first encounter their infant's distress, and the implications of their reactions for infants' later outcomes. The findings from the current study provide evidence of (1) associations between new parents' parenting-related thoughts and actions and their neural activity when hearing their infant's cry sounds during the first month postpartum, and (2) associations between those thoughts and actions and the offspring's later socioemotional competence at 18–24 months. Notably, these associations were found immediately after the infant's birth and were no longer observed at 3–4 months postpartum. Furthermore, these relations differed for mothers and fathers. Specifically, mothers who reported fewer anxious thoughts about their parenting and baby, and the fathers who reported more positive thoughts about parenting, the better the child's perceived socioemotional functioning in toddlerhood. Many people deny that they are mentally ill and yet accept treatment. They may reason that even though they are not ill, the medication helps with certain things they are experiencing, such as sleeplessness. So it may be that all we want or need patients to accept is that they are suffering things that are uncomfortable and that medication could help. Making them admit to the mental illness may be forcing an unnecessary

humiliation on them. Why is it important to think about how patients explain the discrepancy between what they think about their illness (or lack thereof) and what others think? There are at least two reasons. First, if the clinician understands the patient's reasoning, he or she may be better able to address it in treatment. Second, patients' reasoning may have implications for other issues, such as capacity to refuse treatment. Simple denial does not involve a "patently false belief" such as is arguably necessary for incapacity. But we may want to probe as well how people explain their belief that they are not ill when we explore their capacity. Is their reasoning intact? Does their reasoning involve any patently false beliefs that might vitiate capacity in other contexts? In short, probing patients' denial may lead to better ways to help them overcome their denial and give us insight into other issues, like capacity. Further research on denial and how it manifests in different patients would be most welcome.

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