Towards a deductive approach for identifying maladaptive and salubrious schemas: Linking schemas to needs contribution to schema-oriented cognitive behavioral therapy

Chino Jose Offurum
Sigmund Freud University, Vienna. | Institute für Verhaltenstherapie, AVM, Salzburg. | University of Innsbruck. research@offurum.at

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ABSTRACT
Schema-oriented psychotherapy, located in the third developmental era of cognitive behavioral therapy, focuses on patients' maladaptive schemas, developed through insufficient or inappropriate fulfillment of psychological needs, particularly during childhood. To date, schemas have been inductively identified through and for practical therapeutic work, and attention has thus been limited to maladaptive schemas. The current paper argues for a strictly theory-driven, deductive approach to the development of schemas, through which schemas are attributed to the core psychological needs from which they originate. This approach identifies both maladaptive and salubrious schemas, and highlights the role of other relevant schemas, as well as the association of each schema to a core psychological need. The paper is aimed at laying the theoretical groundwork for the relationship between schemas and basic need fulfillment, through which each schema can be attributed to the (adequate or inadequate) fulfillment of a particular core psychological need. In clinical practice, such an approach will facilitate a more nuanced understanding of patients' disorders, in that it prompts clinicians to focus beyond patients' maladaptive schemas and behaviors, thus identifying inadequately or unfulfilled needs, along with possible conflicts between or imbalances in the fulfillment of patients' basic needs. This approach improves both patients' and therapists' understanding of and insight into the functionality of patients' disorders, as it positively recontextualizes the functionality of a disorder or problematic behavioral pattern, as well as its underlying maladaptive schemas, in terms of the existential drive to fulfill fundamental human needs.
***Keywords**: Core Psychological Needs, Maladaptive Schemas, Psychotherapy, Salubrious Schemas, Schema-Oriented Therapy.*

INTRODUCTION

BACKGROUND OF THE STUDY

FROM COGNITIVE TO SCHEMA-ORIENTED BEHAVIOR THERAPY

A principal notion of the cognitive revolution in psychotherapy – an intellectual movement that developed from and soon overtook behaviorism as popular psychotherapeutic approach – could be summarized in a quote ascribed to Victor Frankl (Vesely, 2020, p. 1): "Between stimulus and response there is a space. In that space lie [sic] our freedom and power to choose a response. In our response lies our growth and our happiness." Unlike the doctrine of classic behaviorism, the cognitive revolution emphasizes that behavior is neither passively controlled by stimuli nor solely the result of operant conditioning, as humans inevitably attribute meaning both to stimuli and their consequences. Ellis (1963) emphasized the influence of beliefs and belief systems on emotions and behavior, particularly the influence of irrational (or inappropriate) beliefs on affective disorders. This approach was augmented by Beck (Beck, Rush, et al., 1979; Beck, Freeman, et al., 1999), who is well-known for his research on the treatment of depression.

A common theoretical thread in the so-called second era of behavioral therapy, now termed cognitive behavioral therapy (CBT), is the analysis of patients' cognitions. Three levels of cognitive analysis can be distinguished, the first of which is the analysis of the patient's *automatic thoughts*, the most immediate cognitions in a specific situation (cf. Beck, 1995; Beck et al., 1999). Examples of automatic thoughts include "everyone is casting a scrutinizing look at me," in the case of someone with a social phobia, and "who knows what harm this person means to cause me," in someone with a paranoid personality. The second level is the analysis of the *logic* of the patient's thoughts. Logic refers to the theory of inference, and at this level of analysis the focus is on the logical structures, rules, or steps followed by a patient's general reasoning beyond a given situation, along with the structure of their arguments. This therapeutic discourse analysis encompasses the client's implicit rules and norms (e.g., "I must always be charming," or "I must always be cautious/careful"), as well as the conditional assumptions behind their automatic thoughts (e.g., "if I am not glamorous, then life has no meaning," or "if I disclose something personal or I am not on the alert, I will be taken advantage of"). At the third level of analysis, the patient's personal world views or core convictions (e.g., "one must always be everybody's darling," or "man is wolf to man") are categorized into cognitive patterns, called *schemas*.

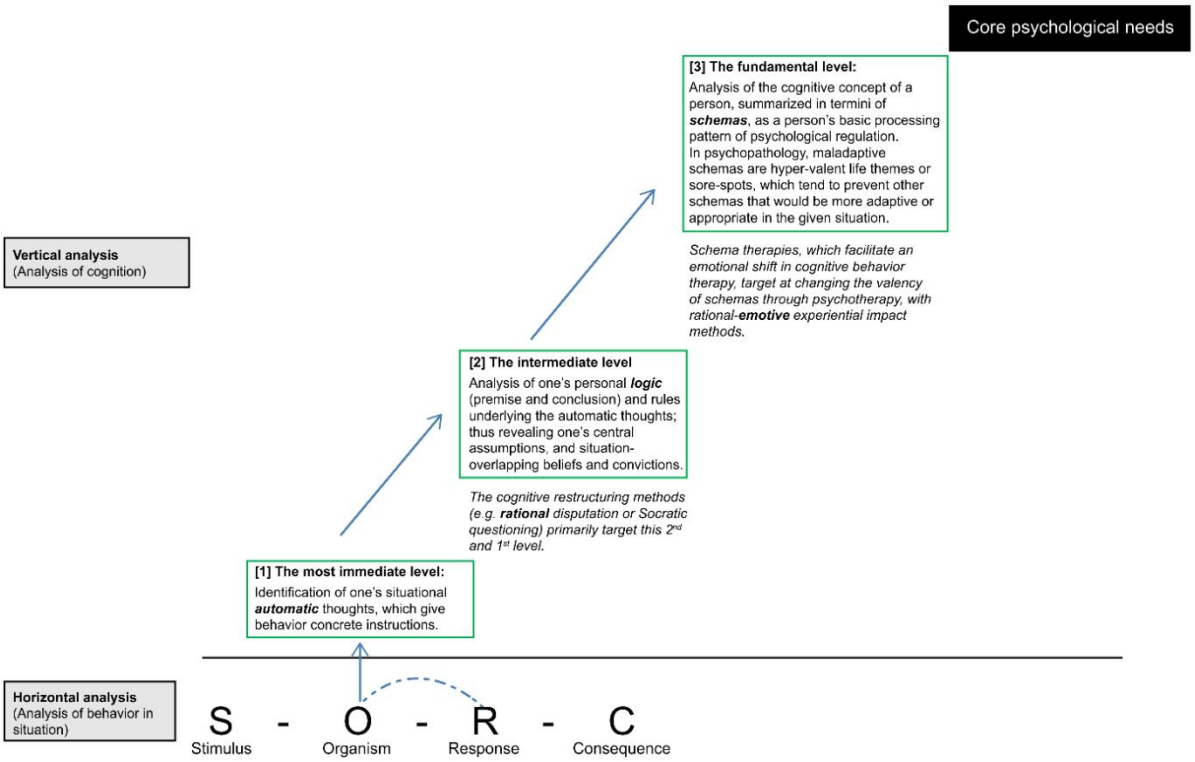

Figure I. Levels of analysis of cognition. © Offurum

THE CONCEPT OF SCHEMAS IN CBT

CBT researchers and practitioners are constantly developing therapeutic techniques for the treatment of Axis I disorders. The challenges posed by patients with Axis II or characterological personality disorders are now increasingly addressed by the adoption of schema-focused CBT approaches (Young et al., 2008).

The third level of cognitive analysis, discussed previously, aims to uncover the "underlying life-themes, life-traps or life-patterns" (Young & Klosko, 1994; Young et al., 2008), "the basic organizing patterns of mental activity" (Grawe, 2000, 2004), or patients' "superordinate life themes" (Grawe, 2000, 2004), originating from their autobiographical experiences, particularly during childhood. They serve as cognitive markers in psychotherapy, and include concepts such as *abandonment*, *mistrust*, *vulnerability*, and *unrelenting standards*.

The term *schema*, as used in cognitive and schema-oriented behavior therapy, may be traced back to Bartlett and Piaget (Beck et al., 1999), and refers to intrapsychic structures that integrate experience and processes information. It strives to grasp the cognitive structure of the "organism variable" in CBT. Schemas are mental structures that are subconsciously used for automatic information processing (Faßbinder et al., 2016). They may be understood as

world-views or unconditional core attitudes – metaphorical eyeglasses through which the world is viewed when activated (Zarbock, 2014). Because schemas are emotionally anchored, they may be referred to as emotional-cognitive patterns, and conglomerated cognitions (including memories) and emotions (including body sensations) (Young et al., 2008). Schemas cannot be separated from emotions, although they must be differentiated as separate constructs.

Schemas are subconscious and remain latent until they are reactivated by triggers similar to the experience of origin. In psychopathology, maladaptive schemas are therefore hyper-valent life themes or "sore spots," and tend to prevent the activation of more adaptive or appropriate schemas in a given situation (Beck et al., 1999). In situations where the valence is high and the maladaptive schema is easily and often triggered, the consequent psychological disorder tends to be severe.

EARLY MALADAPTIVE SCHEMAS

Young et al. (1994, 2008) presented 18 maladaptive schemas: abandonment, mistrust/abuse, emotional deprivation, defectiveness, social isolation/alienation, dependence/incompetence, vulnerability to harm or illness, enmeshment/underdeveloped self, failure, entitlement/grandiosity, insufficient self-discipline, subjugation, self-sacrifice, approval/recognition-seeking, negativity/pessimism, emotional inhibition, unrelenting standards/hypercriticality, and punitiveness. Besides being unconscious, maladaptive, self-defeating, cognitive patterns, one fundamental characteristic of these schemas is that they are developed during childhood and elaborated throughout the individual's lifetime. Schemas are therefore cognitive concepts based on biographical experiences, starting at the moment of birth, and shaped by childhood experiences in particular. A second constitutive characteristic of schemas is that they are emanatively related to basic needs, because they result from unmet core psychological needs (CPNs), which are briefly discussed in the following section.

With reference to Grawe (2004), CPNs may be defined as the requirements that must be fulfilled to survive, thrive, and pass life to one's progeny. With reference to Becker (1995), CPNs may be defined as the psychologically essential demands of the human system existence, fundamental in the sense that they are inborn, universal, and essential for the fostering of psychological health.

Young et al. (2008) pointed out the relationship between schemas and basic needs, and postulated five central emotional human needs. Recent developments in schema therapy

(Zarbock, 2014; Zarbock & Zens, 2011; Roediger, 2011) have centered the four basic psychological needs explicated by Grawe (2000; 2004) – in which he modified Epstein's (1993) summary of basic needs – as the basis of schema therapy. This concept has been further augmented and is understood for the current project as follows:

(a) The CPN of *relationship* or *bonding* is emphasized, for example, in the infant's need for a sound relationship with their mother as a foundation of their personality or character development, according to *object relations* (Klein, 1975) and *attachment theory* (Bowlby, 1988). This core need is referred to by Sokolowski and Heckhausen (2010) as *social bonding*, *connection*, and *intimacy*, and by Grawe (2004) as *bonding*, *relationship*, and the *inter-dependence* of humans.
(b) The CPN of *self-worth* or *self-esteem* refers to the foundation and maintenance of elevated self-worth or self-esteem. In psychotherapy, self-worth has been described by Adler (cf. Rattner, 1990), who emphasized the importance of overcoming the inferiority complex, as the need for recognition, importance, and respect. Presumably, the needs for sense of identity, autonomy (in the sense of self-determination), and setting boundaries mentioned, but not elaborated, by Young et al. (2008) can be included here.
(c) The CPN of *handling* or *actionability* can be understood as the freedom or influenceability of action, as the controllability of events, or as the scope of orientation and control (Grawe, 2000, 2004). The need for competence, autonomy (in terms of freedom of action), and control mentioned by Young et al. (2008); power motivation, as proposed by Schmalt and Heckhausen (2010); and achievement motivation (Brunstein & Heckhausen, 2010), can be allocated here.
(d) The CPN of *pleasure* is defined as the natural principle of optimizing pleasant experiences and minimizing displeasure. The concept includes the need for leisure and joy (*gaudum*).[1]

THE INDUCTIVE APPROACH AND ITS LIMITATIONS

In determining maladaptive schemas, Young (1994, 2008) used an inductive approach, based on the observation of patients' issues in therapy. Roediger (2010), as well as Jacob and Arnitz (2011), leading advocates of schema therapy, emphasize that Young's list of 18 schemas should not be regarded as complete as they were derived from typical, frequently-occurring patterns of patients in therapy; theoretically, further maladaptive schemas can be adopted. The 18 schemas originated inductively, from (and for) practical therapeutic work, and Jacob and Arnitz (2011, p. 39) regard the list as "essentially a clinical heuristic." The inductive approach

is not considered wrong, but this paper argues that it should be complemented by a deductive approach. While the 18 schemas were primarily categorized by Young into *domains*, other leading proponents of schema therapy, such as Zarbock (2014) and Roediger (2011), increasingly associate them primarily to the CPNs discussed above. However, the definitive association of schemas with corresponding needs, as well as the determination of salubrious needs, is still pending. This article therefore proposes the adoption of a deductive approach, driven by the theory of core psychological needs, thereby identifying schemas through their interconnection with needs, and coherently linking schemas to needs.

PROPOSAL FOR A DEDUCTIVE APPROACH

Typically, one can choose to carry out an analysis either in a deductive or inductive way. In an inductive way, one generates codes emerging from the data, working towards constructing a theory. The deductive approach, on the other hand, is theory-driven; one starts with the theory and analyses the data to see how it fits the theory.

The current article proposes a theory-driven, deductive approach for the determination of schemas and attributing them to the respective basic needs. Based on the latest conceptualization of the CPNs of *bonding*, *self-worth*, *handling*, and *pleasure*, this paper explores schemas *deductively*, with the aim of identifying both *maladaptive* and *salubrious* schemas.

One of the rationales for this approach is that, throughout literature, the evolutionary relationship between schemas and basic needs has been presented as fundamental to schema therapy (Young et al., 2008). As such, the linkage of *schemas* to *needs* has ab initio been emphasized so that it presently stands as one of the axioms of schema therapy (Zarbock, 2014). However, the linkage between schemas and needs has yet to be demonstrated. Moreover, this approach has practical benefits as discussed later.

The question of positive schemas (Jacob & Arntz 2011) has also yet to be decisively answered. Some authors have justified their focus on dysfunctional (maladaptive) schemas by indicating that schema therapy is situated in a clinical context. Amanjee et al. (2006) aimed to develop positive schemas; however, their approach was to generate antonyms for a list of 10 unspecified maladaptive schemas, without reference to the corresponding CPNs. Lockwood and Perris (2012) emphasized that needs could be met through parental care, and defined 15 "adaptive" schemas as existing in contrast to 15 maladaptive schemas. It is the goal of the present article to conceptually develop the salubrious schemas, based on basic needs.

Against this backdrop, this article calls for schemas to be explored deductively, and in relation to core needs and the logic of the fulfillment of need. The fundamentals of this approach are the assumptions of schema-oriented therapy (cf. Young et al., 2008) that, first, the inadequate fulfillment of basic human psychological needs leads to maladaptive schemas; and second, the inadequate fulfillment of basic psychological needs has two manifestations, namely (a) lack or deficiency, and (b) injury or "infringement." In the case of "deficit," for example, there is a lack of bonding, whereas, in the case of "infringement," there is bondage.

Manifestations of adequate vs. inadequate fulfillment of the core psychological needs (CPNs)		
Inadequate (non-/mis-fulfillment) of the CPNs		Adequate fulfillment of the CPNs
Maladaptive schemas through **DEFICIENCY** of CPNs	Maladaptive schemas through **INFRINGEMENT** of CPNs	Positive schemas through **ADEQUATE FULFILLMENT** of CPNs

Figure II: Manifestation of the fulfillment of the core psychological needs (CPNs). © Offurum

PRELIMINARY STUDY

In his approach, Offurum (2014) aimed to capture both the positive and negative life themes of patients, not in terms of the experiences themselves, but rather the meaning generated from those experiences (i.e., the attribution of meaning to extraordinarily positive and negative experiences). Participants were invited to report significant positive and negative experiences from their own lives (i.e., experiences that they themselves deemed significant). They were then asked about the meaning of each positive and negative experience mentioned.

To do so, interviews were first conducted and then coded and evaluated through content analysis, using the coding method for individual case descriptions. This step served to uncover the respective schemas. This method is similar to the *critical incident technique* (Flanagan, 1954), whereby data are collected from the respondent's perspective. Subjects were specifically asked about personal life events that they identified as critical; these were experiences that the participants deemed to be extraordinarily positive or negative. A total of 38 people between the ages of 14 and 55 years were interviewed. The mean age was 39.29

years, with a standard deviation of 10.44. The proportion of women was 57.89% (n_1 = 22) and that of men was 42.11% (n_1 = 16). The interviews were analyzed using grounded theory (Corbin & Strauss, 1990), following four customary coding steps: (a) open coding, (b) axial coding, (c) selective coding, and (d) inter-subjective discourse to optimize the code-terms.

The study had certain limitations. All but one of the participants were adults (seven were in their 20s, 11 in their 30s, 11 in their 40s, and eight in their 50s), and future studies should consider examining adults and children separately to avoid neglecting the specificity of childhood and adolescence. Indeed, the Young Schema Questionnaire (Young et al., 2003) became prominent among schema-oriented cognitive behavioral therapists without being specifically tested for children, and a schema therapy assessment instrument has only recently been developed for children (Loose et al., 2018). Nevertheless, the single non-adult among the subjects in Offurum's (2014) study could neither bias the identification and extraction of informational content characterizing utterances based on the meaning emerging from the data, nor could it bias the coding of keywords into schemas, nor the categorization of schemas according to the schema theory matrix (Figure II). However, it serves as a reminder that most established knowledge in schema therapy refers to adults, and that generalization to children or the elderly must be made with care.

Regarding sample size, there are no general specifications regarding sample size in qualitative research, and samples can be very small, regardless of homogeneity. It is, however, important to determine the extent to which a sample represents the population, and thus the extent to which the results of the sample can be applied to the general population (Hussy et al., 2013). It should also be noted that the sample in Offurum's (2014) study is limited to a single ethnicity, and application to other cultures must be made carefully. Since the concept of schema-oriented therapy originated in Western culture, future research should focus on expanding its applicability in diverse cultural contexts.

THE CONTINUATIVE FURTHER STUDY

Based on the limitations of Offurum's (2014) study, an independent second study was conducted to examine the fundamentals of schema therapy across cultures, particularly with regard to basic psychological needs and schemas, and how they relate to one another. To do this, participants from Central Europe, West Africa, and North America were interviewed. As

in the first study, the interview process was divided into three stages: opening, main section, and final stage (Schütze, 1983).

During the opening stage, the interviewer expressed gratitude for the interviewee's willingness to participate, and explained to them the scientific goal of the study, the voluntary nature of participation, and the anonymity of data (achieved through nondisclosure and removal of identifiable details). For the first narrative impulse (request to narrate an experience), the interviewer requested the interviewee to describe one, two, or three particularly positive experiences in their life. For the second narrative impulse (request to narrate the meaning of each experience), the interviewer asked the interviewee about the meaning of each positive experience they had mentioned, and the mindset triggered by each experience. These steps were then repeated for negative experiences and their associated meanings. In contrast to the preliminary study, the interviewer further requested interviewees to associate their answers to the four CPNs of *bonding*, *self-worth*, *handling* or *pleasure*, and miscellaneous. The examiner then again expressed gratitude for each interviewee's participation, and the conversation ended after the examiner had ensured that there were no concerns about each interviewee's emotional state.

The study had ethics approval from the University of Innsbruck. A total of 166 people were interviewed: 52 (31.3%) from Central Europe, 55 (33.1%) from West Africa, and 59 from North America (50 [30.1%] grew up in the US, and nine [5.4%] were non-residents or immigrants to the US). Participants were between the ages of 18 and 87. The proportion of women was 51.8% (n = 86) and that of men was 48.2% (n = 80). Similar to the preliminary study, analysis took place in accordance with grounded theory. Atlas.ti software was used for data analysis after the interviews had been transcribed from audio into a word processing application, and imported into the software. On Atlas.ti, the transcripts were read through and relevant segments of text highlighted and saved as "quotation" codes (or tags, i.e., tentative labels to identify the informational content characterizing each utterance, based on the meaning that emerged from the data). This process was theory-driven; that is, based on the concept of the fulfillment of CPNs (Figure II) and the "quotations" associated with them. These codes reflected the termini for the maladaptive and salubrious schemas.

For example, a participant described the meaning of one of her most beautiful positive experiences as the tenor of attachment/belonging with nature. This was coded as the salubrious schema *belongingness*. Another participant described a personally negative experience of separation in a relationship as triggering the mindset of "being left alone, being

abandoned," which was coded as the maladaptive schema *abandonment/forsaken*. The provoked personal maladaptive posture of a participant living a fake life in a relationship was described as "like not being me." This quotation was linked to maladaptive schema *inauthenticity*. Another participant described the attitude sparked by the intrusion of a third person in their relationship as "a personal failure" (coded as schema *failure*), while yet another described a similar experience as sparking the feeling of mortification (coded as schema *humiliation*). This coding process facilitates transparency in the analysis of participants' quotations and strengthens the empirical evidence.

Ultimately, the codes were grouped and organized following the logic of the manifestation of CPN fulfillment (Figure II). The tentative results are shown in Figure III. The current paper is aimed at laying the theoretical groundwork for and presenting the preliminary results of the multicultural study. The evaluation is not yet complete, and an extensive future publication based on this study will elaborate on the potential of the deductive approach for determining schemas in relation to CPNs.

Figure III: Conceptualization of attribution of maladaptive and salubrious schemas to CPNs

PRACTICAL IMPLICATIONS

Since a fulfilled life is closely linked to the satisfaction of basic needs (Borg-Laufs, 2012), this work advocates for the visualization of basic needs in schema-oriented psychotherapy. It has often been observed that the pathological behavior of patients in psychotherapy could be considered maladaptive attempts to satisfy individual psychological needs, or to avoid infringement of or deficiency in the fulfillment of these needs. In these cases, psychotherapeutic transformation of pathological behavior or of maladaptive schemas could be more effective if the interventions are linked to the basic needs and maintaining their balance (cf. Borg-Laufs, 2012). Following Roediger (2011), a central function of case conceptualization lies in shifting the therapeutic view from the surface (symptoms) to the depths (*schemas* and *needs*, which mutually motivate affection and behavior). The current article advocates for a basic needs-oriented case conceptualization.

Take, for example, a patient in her 40s who is in therapy for the treatment of obsessive-compulsive disorder (OCD) and panic disorder. She describes her problems, among others, as compulsory controls (particularly when leaving the house for more than an hour), over-justification and compressed stress at work, and over-grouching and constant disagreements in her on-off relationships. Feelings of anxiety and desperation accompany these symptoms.

She describes her greatest fear at present as burglary or her apartment burning down in her absence. The fear is not about the loss of her valuables, but rather about being criticized and held responsible by other people or the insurance company. She feels desperate about ageing without a spouse, and wishes she could give her present boyfriend a good shake, but doubts if that would move him. It wears her down that things do not materialize in the way she wants and that she cannot exert influence. For this case, relevant maladaptive schemas could be identified, such as *deprivation*, *abandonment*, *powerlessness*, and *failure*. She refers to her compulsive rituals as her "tools" for being flawless and impeccable, in order to not be criticized, and panic as an expression of helplessness. She describes her relationship as a constant struggle to bond with her boyfriend on the one hand, and being cautious about forging close links with him on the other. Thus, she identifies the underlying basic needs for *handling* and *bonding*, as well as the conflict she experiences between the two.

Should the therapy comprise OCD-specific techniques, exposure and response prevention, among others, could be applied to help the patient learn to withstand her uncertainties. Since she feels as if she surrenders control when she stops her compulsions, she could be confronted with the paradoxical challenge to observe how often she would effectively dispute the predator (i.e., the compulsion) and take back control from it after having gained awareness of and reframing the situation as the irruption of the predator. Alternatively, one could dedicate a stipulated time and venue for the performance of compulsive rituals. In any case, techniques such as these are palpable procedures for implementing therapeutic principles, and this essay advocates the principles of a basic needs-oriented case conceptualization. Satisfaction of psychological needs is indeed the path and goal of psychotherapy. Psychotherapeutic transformation of pathological behavior or maladaptive schemas could become more promising when the interventions are connected to basic needs and maintaining their balance. If the therapist uses metaphors in therapy, they could give the patient's OCD a name and frame it as an unfortunately overambitious defense minister who holds the nation at military attention when it is totally uncalled for. Regardless of the techniques that one creatively wishes to apply (e.g., imagination exercises, techniques with the "inner child," or ego-state therapy techniques with the various schemas and modes), it is advantageous to always directly or implicitly refer to the basic needs. In the sense of Grawe's (2000, 2004) consistency theory, one must always consider all basic needs, as well as the fulfillment of and the balance between these needs; in this case, between the conflicting needs for *relationship* and *handling*, where the basic needs of pleasure and self-worth are also taken into account for a holistic approach.

CONCLUSION

Linking schemas to needs gives meaning to patients' behavior. It helps them connect the existential dots and understand the needs behind their seemingly confusing behaviors. It makes it possible for them to accept the needs per se, while looking for alternative behavioral strategies to fulfill them. Identifying underlying inadequately fulfilled basic needs through the patient's disorders, schemas, and therapeutic interactions, or identifying a patient's most pressing unfulfilled needs, as well as identifying any possible conflicts between or imbalances in the fulfillment of their needs, give psychotherapeutic interventions greater gravity.

In the long run, one may question whether each schema cannot be assigned to several basic needs. This question is understandable because if a schema arises through the deficiency, infringement, or fulfillment of one of the four basic needs, it may well have an impact on other basic needs. For further discussion on the differentiation and interrelation of basic needs, see the author's article (2019) "Basic Psychological Needs – Fundamentals of Schema Therapy."

Finally, beyond the scope of this article, the operational definition of each code/tag (what each maladaptive and salubrious schema exactly represents) is necessary, and items need to be created for a transcultural questionnaire on maladaptive and salubrious schemas, as a contribution to the advancement of schema-oriented cognitive-behavior therapy.

REFERENCE

Amanjee, B., Crous, F., & Crafford, A. (2006). Towards validating a framework of adaptive Schemata for entrepreneurial success. *South African Journal of Industrial Psychology*, *32*(3), 26–34.

Beck, A. T., Freeman, A., & Breidenbach, C. (1999). *Kognitive Therapie der Persönlichkeitsstörungen.* [*Cognitive therapy for personality disorders*]. (4th ed.). Beltz.

Beck, A. T., Rush, J., Shaw, B., & Emery, G. (1979). *Cognitive Therapy of Depression*. Guilford.

Beck, J. S. (1995). *Cognitive therapy: Basics and beyond*. Guilford.

Becker, P. (1995). *Seelische Gesundheit und Verhaltenskontrolle*. [*Mental health and behavior control*]. Hogrefe.

Borg-Laufs, M. (2012). Die Befriedigung psychischer Grundbedürfnisse als Weg und Ziel der Kinder- und Jugendlichenpsychotherapie. [The satisfaction of basic psychological needs as path and goal of child and adolescent psychotherapy]. *Forum Für Kinder- und Jugend Psychiatrie, Psychosomatik und Psychotherapie*.

Bowlby, J. (1988). *A secure base: Parent-child attachment and healthy human development*. Basic Books.

Brunstein, J. C., & Heckhausen, H. (2010). Leistungsmotivation. [Achievement motivation]. In J. Heckhausen & H. Heckhausen (Eds.), *Motivation und Handeln* (4th ed., pp. 145–192). Springer.

Corbin, J., & Strauss, A. (1990). Grounded Theory Research: Procedures, Canons and Evaluative Criteria. *Qualitative Sociology*, *13*(1).

Corbin, J., & Strauss, A. (1990). Grounded Theory Research: Procedures: Procedures, Canons and Evaluative Criteria. *Zeitschrift Für Soziologie*, *19*(6), 418–427.

Ellis, A. (1963). *Reason and emotion in psychotherapy*. Lyle Stuart.

Epstein, S. (1993). Emotion and Self-Theory. In M. Lewis (Ed.), *Handbook of Emotions* (3rd ed., pp. 313–326). Guilford.

Faßbinder, E., Schweiger, U., & Jacob, G. (2016). *Therapie-Tools Schematherapie* [*Therapy tools: Schema therapy*]. (2nd ed.). Beltz.

Flanagan, J. C. (1954). The critical incident technique. *Psychological Bulletin, 51*(4), 327–358.

Grawe, K. (2000). *Psychologische Therapie*. [*Psychological therapy*]. (2nd ed.). Hogrefe.

Grawe, K. (2004). *Neuropsychotherapie*. [*Neuropsychotherapy*]. Hogrefe.

Hussy, W., Schreier, M., & Echterhoff, G. (2013). *Forschungsmethoden in Psychologie und Sozialwissenschaften für Bachelor*. [*Research methods in psychology and social sciences*]. (2nd ed.). Springer.

Jacob, G. A., & Arntz, A. (2011). *Schematherapie in der Praxis*. [*Schema therapy in practice*]. Beltz.

Klein, M. (1975). *The writings of Melanie Klein: Vol. I: Love, guilt and reparation and other works 1921-1945*. The Free Press.

Lockwood, G., & Perris Poul (2012). A New Look at Core Emotional Needs. In M. van Vreeswijk, J. Broersen, & M. Nardort (Eds.), *The Wiley-Blackwell handbook of schema therapy: Theory, research and practice* (pp. 41–66). Wiley-Blackwell.

Loose, C., Meyer, F., & Pietrowsky, R. (2018). The Dusseldorf Illustrated Schema Questionnaire for Children (DISC). *Psicologia: Reflexão E Crítica*, *31*(7).

Offurum, C. J. (2014). *Das Schmetterlingskonzept: Die auf die psychischen Grundbedürfnisse basierenden positiven (salutogenen) und negativen (maladaptiven) Schemata*. [*The positive (salutogenic) and negative (maladaptive) schemas based on basic psychological needs*]. [Unpublished thesis, Leopold-Franzens, Innsbruck].

Offurum, C. J. (2019). The Basic Psychological Needs - Fundamentals of Schema-Oriented Therapy and Impact Techniques in Psychotherapy. *Journal of Professional Counselling and Psychotherapy Research (JPCPR), 2*(1), 161–180.

Rattner, J. (1990). *Klassiker der Tiefenpsychologie*. [*Classics of depth psychology*]. Psychologie Verlags Union.

Roediger, E. (2010). *Raus aus den Lebensfallen!: Das Schematherapie-Patientenbuch*. [*Get out of the traps of life!: The Schema Therapy Patient Book*]. Junfermann.

Roediger, E. (2011). *Praxis der Schematherapie: Lehrbuch zu Grundlagen, Modell und Anwendung*. [*Practice of schema therapy: textbook on the basics, model and application*] (2nd ed.). Schattauer.

Schmalt,, H.-D., & Heckhausen, H. (2010). Machtmotivation. [Power motivation]. In J. Heckhausen & H. Heckhausen (Eds.), *Motivation und Handeln* (4th ed., pp. 211–236). Springer.

Schütze, F. (1983). Biographieforschung und narratives Interview. [Biography research and narrative interview]. *Neue Praxis*, 13(3), 283–293.

Sokolowski, K., & Heckhausen, H. (2010). Soziale Bindung: Anschlussmotivation und Intimitätsmotivation. [Social attachment: Connection and intimacy motivation]. In J. Heckhausen & H. Heckhausen (Eds.), *Motivation und Handeln* (4th ed., pp. 193–210). Springer.

Vesely, F. (2020). Alleged quotes. Victor Frankl Institute. https://www.univie.ac.at/logotherapy/quote_stimulus.html

Young, J. E., & Klosko, J. S. (1994). *Reinventing your life*. Plume.

Young, J. E., Klosko, J. S., & Weishaar, M. E. (2008). *Schematherapie: Ein praxisorientiertes Handbuch*. [*Schema therapy: A practitioner's guide*] (2nd ed.). Junfermann.

Young, J., Brown, B., Berbalk, H., & Grutschpalk, J. (2003). *Young Schema Questionnaire (YSQ-S2):* - unpublished.

Zarbock, G. (2014). *Einladung zur Schematherapie: Grundlagen, Konzepte, Anwendung*. [*Invitation to schema therapy: Basics, concepts, application*]. Beltz.

Zarbock, G., & Zens, C. (2011). Bedürfnis- und Emotionsdynamik. [Dynamics of needs and emotions]. In E. Roediger & G. A. Jacob (Eds.), *Fortschritte der Schematherapie: Konzepte und Anwendungen* (S 45-65). Hogrefe.

	Manifestation of non-fulfillment/fulfillment of the *core psychological needs* (CPNs) into schemas		
CORE PSYCH. NEEDS	*Maladaptive schemas* through **deficient** fulfillment of the core psychological needs (CPNs) $\mathcal{GB}^{+}$	*Maladaptive schemas* through **infringement** of the core psychological needs (CPNs) GB^{-}	*Salubrious schemas* through **adequate fulfillment** of the core psychological needs (CPNs) GB^{+} (perhaps also $\mathcal{GB}^{-}$)
Bonding	- Abandonment*, forsaken - Rejection, repudiation, exclusion, (social alienation)* - Deprivation*	- Enmeshment* - Mistrust, abuse* - Self-sacrifice*	- Contact, interaction, socializing - Belongingness - '*Geborgenheit*' (security, warmth, intimacy, caring)
Self-Worth	- Vulnerability, flawed, fragile, defectiveness* - Inauthentic, fake, (self-alienation) - Inferiority, humiliation, (subjugation*)	- Inviolable - Admiration over-seeking, approval over-seeking* - Superiority/supremacy complex grandiosity*	- Robustness, resilience, - Authenticity, genuine - Dignity, reputation,
Handling	- Powerlessness[1], helplessness[1] - Failure* in performance, (incompetence*) - Lack of impact[1]	- Omniscience[1], control complex[1] - Omnipotence, unrelenting standards/hypercriticality* - Indispensable[1]	- Orientation, understanding, (epistemic competence/control) - Capability, actionability, (performative competence/control) - Impact[1]
Pleasure	- Hostile to ease - Hostile to amusement[1], anhedonia[1], emotional inhibition* - Pessimism[1]*, negativity[1]*	- Faineance, hyper-relaxation - Insatiate[1], insufficient self-discipline* - Unsavory[1], hideous[1], (punitiveness*)	- Serenity, easiness, recreation - *Gaudium*, enjoyment, fun - Aesthetics[1]

Note. *Corresponding to termini by Young et al. (2008). [1] Termini not yet fully developed.
Geborgenheit: a rich German word commonly considered to be untranslatable and describing a state of security, protection, shelter and care, with a sense of closeness and warmth.

Figure III: Conceptualization of the attribution of maladaptive and salubrious schemas to the CPNs