NICOLAI GROEGER

Meta Needs in the context of Schema Therapy: Psychometric qualities of a new Meta Needs Questionnaire and relationships with depression, anxiety and schemas

Original Paper

Schema Therapy proposes that when core emotional needs are frustrated in childhood, these experiences lead to rigid patterns of thoughts and feelings in important life circumstances, that are known as early maladaptive schemas (Young et al., 2003). Clinical practice recently indicated another type of needs that is more abstract and philosophical, similar to the ones proposed by existential and humanistic psychology. “Meaning in life”, “living an authentic life”, and “feeling as a part of the world” are some examples (Prochaska & Norcross, 2010), which are also called “Meta Needs” (Maslow, 1971). To provide the groundwork for utilizing the Meta Needs concept in the Schema Therapy practice, a Meta Needs Questionnaire (MNQ) was developed that investigates the satisfaction levels of Meta Needs. The present study explores the psychometric properties of the MNQ. Factor analysis of the items revealed two factors, which were labeled “Authenticity and “Liveliness”. Item-analysis showed good to excellent reliability measures of the MNQ, also regarding split-half reliability. Correlations with anxiety and depression were significant, demonstrating construct validity of the scale. As to criterion-related validity, the study confirmed the hypothesis that schemas negatively correlate with attained Meta Needs fulfillment. A possible interpretation of the results is that when core emotional needs are unmet, Meta Needs are also not met, and this state seems to be related to clinical symptoms..

Keywords: Meta Needs; Schema Therapy; Upward Arrow technique; Maslow; existentialism

Nicolai Groeger; Bachelor year 3
Maastricht University, Maastricht, The Netherlands

groeger.n@googlemail.com

INTRODUCTION

Schema Therapy proposes that people can develop negative schemas (beliefs about the self and the world) in childhood when their emotional core needs are frustrated. These needs are *realistic limits and self-control, secure attachments, autonomy, spontaneity and play, and freedom to express valid needs and emotions* (Young, Klosko, & Weishaar, 2003). When these core-needs are intensely violated or unmet in childhood, the child learns from these negative experiences something about the environment, other people and the self. More precise, the corresponding memories, emotions, thoughts and sensations of the body are organized into a broad pattern of negative experience that can become rigid and persistent through life, depending on many factors such as the child's vulnerability to these experiences, their intensity and duration. Such a rigid pattern is called early maladaptive schema (from now on referred to as "schema"). When activated by circumstances later in life, schemas trigger emotions, cognitions and behaviors. These were formed as a reaction to the early life experiences which created the schema, and are not functional for meeting a person's needs in later adult life (Young et al., 2003). Up till now, 18 schemas have been identified. They are grouped under five domains. Each schema domain corresponds to one of the five core emotional needs. When a core emotional need is neglected, the person may develop one of the schemas from the corresponding domain, but not schemas belonging to one of the other domains. The schema concept can thus be said to rest on the assumption that five core emotional needs are crucial for psychological health. Their neglect leads to schemas that are often at the root of chronic Axis I and Axis II disorders (Rafaeli, Bernstein, & Young, 2011).
Another, more existential and abstract class of needs, termed "Meta Needs" by Abraham Maslow (1971), has been mentioned in other psychotherapy systems. Existential psychotherapy recognizes the need for *meaning in life and death*, which is to find the own existence meaningful, including the certainty that our lives will end. Another need is to live an authentic life, that can be described as a prerequisite to face all parts of reality directly without hiding from it (Prochaska & Norcross, 2010). Carl Rogers (1961) also describes how person-centered therapy leads to *vividness, greater joy and excitement in life.*

The concept of Meta Needs and their link to clinical symptoms has never been studied empirically. No attempts have been made to investigate their potential relationship with early maladaptive schemas and core emotional needs of the Schema Therapy framework. However Maslow (1971) proposed that Meta Needs are

related to more basic needs, and are important for psychological health. To investigate this concept, a Meta Needs Questionnaire (MNQ) was developed by A. H. Karaosmanoğlu that has not been published elsewhere yet. The MNQ is a self-report scale that assesses to what degree Meta Needs are met. Each item is a statement about the fulfillment of a Meta Need. The items were obtained from clinical observations of patients with a diversity of symptoms and diagnoses. Due to the nature of this procedure, it was hypothesized that some items of the MNQ would be redundant, and that groups of items would be different expressions of essentially a much smaller set of variables, i. e. measuring the same Meta Needs. Therefore factor analysis was used to explore the item structure.

Concerning that negative schemas trigger intense negative emotions, distort the perception of reality, and have a negative impact on interpersonal relationships (Young et al., 2003), it seems likely that they would conflict with aforementioned Meta Needs. It was therefore hypothesized that people who have strong schemas, as indicated by high scores on the YSQ-S3, tend to experience less Meta Need fulfillment, as indicated by lower scores on the MNQ. Thus the two measures should negatively correlate. Moreover, according to Existential Psychotherapy, when Meta Needs are unfulfilled, pathologies like *existential anxiety* and *existential guilt* may arise (Prochaska & Norcross, 2010). In addition, Maslow (1971) states that frustration of Meta Needs is linked to psychological problems, crises and symptoms. Therefore it was also hypothesized that Meta Needs fulfillment (indicated by the MNQ total score) negatively correlates with clinical symptoms such as depression and anxiety, and therefore with the BDI-II and BAI total score. The former hypothesis serves to verify criterion-related validity, the second one construct validity of the MNQ. In addition reliability of the new questionnaire was assessed with an item-analysis.

METHODS

Participants

The study is based on data from the PsikoNET database. Since 2003 patients have been using the PsikoNET web-based interface to fill in several questionnaires. Diagnostic assessment of the patients was conducted by a psychiatrist. Approximately 30% of the participants were diagnosed with an anxiety disorder or depression. The remaining participants did not meet any diagnostic criteria and primarily had interpersonal relationship problems. Completing the questionnaires was part of a Schema Therapy intervention. The questionnaires were completed simultaneously; hence the design of this study is cross-sectional. Most participants did not fill in all the questionnaires that were used in this study; therefore N varies across combinations of tests. Table 1 shows the amount of participants in all applied combinations, men-women distribution, mean age with standard deviation, age-range, and percentage of participants who answered the question about their gender.

Table 1 Properties of the sample of participants per combination of psychometric tests

	1.	2.	3.	4.
1. MNQ	N=319 (m=95, w=224) m_age=35 (7.90) range 17-61; 78%			
2. BDI-II	267	N=546 (m=162, w=384) m_age=36 (7.68) range 17-61; 86%		
3. BAI	262	503	N=518 (m=157, w=361) m_age=36 (7.54) range 17-61; 86%	
4. YSQ-S3	273	476	455	N=641 (m=198, w=443) m_age=36 (7.65) range 11-61; 80%

Note: The diagonal gives information about each test. The off-diagonals show the amount of participants per combination of tests.
Abbreviations: N=amount of participants who filled in the questionnaire, w=amount of women, m=amount of men, m_age=mean age (with standard deviation) range=range of ages and percentage % of participants who reported their age; MNQ=Turkish Meta Needs Questionnaire, BDI-II=Turkish Beck Depression Inventory-II, BAI = Turkish Beck Anxiety Inventory, YSQ-S3=Turkish Young Schema Questionnaire – Short form-3

Materials

Meta Needs

Upward arrow technique. Twelve years ago, the 'upward arrow technique' was developed by A. H. Karaosmanoğlu (personal communication, September, 2011). This technique can be understood as the counterpart to the downward arrow technique, originally developed by Beck (1995). When the downward arrow technique is used, a therapist asks a series of open-ended questions, to uncover the negative meaning that underlie the automatic thoughts of a patient. Negative core beliefs and attitudes can be exposed with this technique. The upward arrow technique works in the opposite direction. By asking a series of questions about the positive function of a dysfunction, several layers of meaning and functionality, which the dysfunction has for the patient, are revealed. These layers consist of increasingly broader and more abstract concepts of life fulfillment. 'Meta Needs' was chosen as a term for the broadest and most abstract pattern that can be found at the core level with this technique, because of the striking similarities with Meta Needs as proposed by Maslow (1971) and Existential Psychotherapy (Prochaska & Norcross, 2010). In summary, with the upward arrow technique the link between

a dysfunction and Meta Needs can be uncovered, which is, the behavior acts as a maladaptive attempt to fulfill the patient's Meta Need(s), an idea that was originally proposed by Maslow (1971).

Meta Needs Questionnaire (MNQ). The 24 items of the MNQ were derived from clinical practice. They are essentially reformulations of the answers that patients gave when the upwards arrow technique was used. Each item is a positive statement about the fulfillment of a Meta Need, rated by the participants on a six point Likert scale, according to how well the statements describe them (range 1= "completely untrue of me" to 6="describes me perfectly").

Figure 1 shows the items. They were originally framed in Turkish, and the participants of the present study used the original Turkish version of the MNQ. The items were translated so that non-Turkish readers can understand them. Although we translated the items carefully, the actual analysis is based on the Turkish scale, and may or may not deviate from findings that would have been obtained if the English version had been used. Furthermore the English version is not an official translation of the Turkish MNQ, since the necessary procedures to translate a psychometric scale (van de Vijver & Hambleton, 1996) were not applied. Please regard the translated scale only as a support to understand the content of the items.

Figure 1 English translation of the Meta Needs Questionnaire (MNQ)

m1_ I feel that I live parallel to the aim of coming to life
m2_I live a meaningful life
m3_I lived good things
m4_I know why I came to life, and I live parallel to that
m5_I feel that I am living with doing positive contributions to my loved ones and the people around me
m6_I know who I am
m7_I live in accordance with who I am
m8_I often feel the joy of being/ of living
m9_I feel that I live
m10_I feel as a whole/ complete
m11_I live parallel to my beliefs about life
m12_I feel why I came to life and I live parallel to that
m13_I feel that I did good things
m14_I know what I want for myself and I live parallel to that
m15_I live a colorful life
m16_I feel in life
m17_I feel as a part of the universe
m18_I have strong feelings about why I came to life and I live parallel to that
m19_I feel mostly honest to myself
m20_I live in a way that I want
m21_I live a life that I love
m22_I live in harmony with myself
m23_I live by having the taste of life
m24_I feel that I exist in a concrete / a strong way

Note: Please note that this is not an official translation of the Turkish MNQ which was used in the study. The MNQ was developed by Karaosmanoğlu in 2012 and has not been published elsewhere yet.

Schemas

Turkish Young Schema Questionnaire - Short form-3 (YSQ-S3). The Turkish version is a translation of the English YSQ-S3, which is a 90-item self-report questionnaire, measuring 18 early maladaptive schemas. Participants were asked to rate the items in terms of how they feel about their lives. Items were scored on a 6-point Likert scale (range: 1 completely untrue – 6 describes me perfectly). In a previous study, acceptable validity and reliability measures were found in a Turkish sample (Soygüt, Karaosmanoğlu, & Çakır, 2009).

Symptom information

Turkish Beck Depression Inventory-II (BDI-II). The BDI-II is a well accepted 21-item self-report questionnaire assessing how the patient has been feeling during the last two weeks, with high internal consistency (Beck, Steer, Ball, & Ranieri, 1996), good validity and test-retest measures (Beck, Steer, & Brown, 1996). It measures the affective, motivational, physiological, and cognitive symptoms of depression. Items are rated from 0 (absence of symptom) to 3 (severe symptom). In a previous study the Turkish translation was found to have good psychometric properties, furthermore the cut-off scores were found to be applicable for the Turkish culture (Kapci, 2008).

Turkish Beck Anxiety inventory (BAI). The BAI contains twenty-one items about how the patient has been feeling during the last week with regard to symptoms of anxiety, especially cognitive and somatic aspects. Items range from 0 (absence of symptom) to 3 (severe symptom). The BAI is widely used and has good psychometric qualities (Fydrich, Dowdall, & Chambless, 1992). More importantly, the Turkish version of the BAI was found to have high internal consistency and good validity measures (Ulusoy, Sahin, & Erkmen, 1998).

Statistical analysis

Factor analysis and item exclusion

The sample of 319 patients who completed the MNQ was factor-analyzed. Items which had similar loadings on the factors were then removed and the next factor analysis was conducted. Again, those items with similar loadings were excluded from analysis. The procedure was continued until only items were left that showed differences in the factor loadings of at least 0.1. Items were then assigned to the factors according to their loadings. The factors were given labels that are representative for the encompassing items.

Reliability

To determine the internal consistency, a reliability analysis was conducted with the items that had not been excluded in the previous step, first for the whole scale, then the two factor-subscales separately. In addition the split-half reliability was tested for each factor-subscale.

Validity

To test the criterion-related validity of the MNQ, it was correlated with the BDI-II, and BAI. To examine construct validity, a correlation analysis of the MNQ with the YSQ-S3 was conducted.

RESULTS

Factor analysis

An exploratory factor analysis was carried out, using the principal components method, with varimax rotation. The orthogonal rotation method was chosen, in order to obtain uncorrelated factors. The data were found adequate for principal component analysis (KMO = .96). The Kaiser Criterion indicated a two-factor structure with an eigenvalue of 1.20 for the second component, which explained 4.99% of the variance. The scree plot test however suggested a one-factor solution.

Examination of the residual correlation matrices revealed that only 26% of the residuals had values greater than 0.05 for the more favorable two-factor solution, compared to 36% when one factor was extracted. The Maximum Likelihood Goodness-of-fit Test was significant ($p<.01$) in both the one-factor ($\chi^2=1237.94$, $df=252$) and the two-factor model ($\chi^2=857.48$, $df=229$). Theoretically more than one factor was expected, concerning that previous literature suggested more than one Meta Need (Maslow, 1971; Prochaska & Norcross, 2010). The content of the items appeared to be strongly heterogeneous, so it was considered unlikely that they were parallel expressions of a single latent variable. Furthermore, several items were judged seemingly similar to each other. The alternative explanation for the one-factor model, that each of the 24 items represents a unique Meta Need, was therefore not considered reasonable either. It should be noted that the latter examinations were not based on objective criteria. Taken together the findings were interpreted in favor of the two-factor model.

After rotation, a total of 65.08 percent of the variance could be explained by the two factors (33.15% and 31.93%, respectively). Four items with highly similar content were identified *(m1_I feel that I live parallel to the aim of coming to life; m4_I know why I came to life, and I live parallel to that; m12_I feel why I came to life and I live parallel to that, m18_I have strong feelings about why I came to life and I live parallel to that)*. In order to reduce redundancy and to distinguish the factors more clearly, three items were excluded, and only m4 which had the highest loading on one of the factors among the four, as well as the biggest difference in loadings on the factors, was retained. The next factor analysis was carried out with the remaining items. Items with a difference in factor loadings less than 0.1 after rotation (m2, m10, m14) were removed. For the same reason, m24, and afterwards m13 were excluded in the next two iterations. Table 2 shows the process of item exclusion and the factor loadings for the five successive factor analyses. The 16 items of the last iteration fulfilled the criterion and were assigned to a factor, according to their loadings after

varimax rotation. Finally, based on the content of the items, especially those with very high and unambiguous loadings, the first component was labeled "Liveliness" (LN), and the second "Authenticity" (AU). Table 3 shows the two resulting factors.

Table 2 The two extracted factors, items and factor loadings

Liveliness (LN)		Authenticity (AU)	
factor loading	item	factor loading	item
.85 (.33)	m23_I live by having the taste of life	.82 (.24)	m6_I know who I am
.81 (.17)	m15_I live a colorful life	.77 (.35)	m7_I live in accordance with who I am
.80 (.31)	m8_I often feel the joy of being/ of living	.68 (.19)	m19_I feel mostly honest to myself
.78 (.40)	m16_I feel in life	.68 (.49)	m11_I live parallel to my beliefs about life
.76 (.33)	m20_I live in a way that I want	.64 (.40)	m5_I feel that I am living with doing positive contributions to my loved ones and the people around me
.75 (.42)	m21_I live a life that I love	.63 (.46)	m4_ I know why I came to life, and I live parallel to that
.73 (.41)	m9_I feel that I live		
.66 (.53)	m22_I live in harmony with myself		
.62 (.43)	m17_I feel as a part of the universe		
.50 (.32)	m3_I lived good things		

Note: Items with higher loadings were given more attention when the factors were labeled. The first items in the list are thus most representative for the names "Liveliness" and "Authenticity". The number in brackets shows the loading that the item has on the other factor.

Table 3 Rotated component matrices and item exclusions for a series of factor analyses

		24 items		21 items		18 items		17 items		16 items	
		AU	LN	LN	AU	LN	AU	LN	AU	LN	AU
m1	I feel that I live parallel to the aim of coming to life (excluded before 21 item analysis)	.76	.32								
m2	I live a meaningful life (excluded before 18 item analysis)	.70	.51	.59	.61						
m3	I lived good things	.27	.52	.50	.30	.50	.31	.50	.31	.50	.32
m4	I know why I came to life, and I live parallel to that	.81	.30	.44	.66	.46	.62	.46	.63	.46	.63
m5	I feel that I am living with doing positive contributions to my loved ones and the people around me	.63	.38	.39	.64	.40	.64	.41	.65	.40	.64
m6	I know who I am	.74	.26	.23	.83	.24	.83	.24	.82	.24	.82
m7	I live in accordance with who I am	.73	.32	.33	.76	.35	.76	.35	.76	.35	.77
m8	I often feel the joy of being/ of living	.38	.76	.79	.32	.80	.32	.80	.32	.80	.31
m9	I feel that I live	.43	.72	.72	.42	.73	.42	.73	.41	.73	.41
m10	I feel as a whole/ complete (excluded before 18 item analysis)	.60	.53	.57	.57						
m11	I live parallel to my beliefs about life	.69	.45	.47	.69	.49	.68	.49	.68	.49	.68
m12	I feel why I came to life and I live parallel to that (excluded before 21 item analysis)	.76	.45								
m13	I feel that I did good things (excluded before 16 item analysis)	.57	.49	.55	.52	.56	.49	.57	.50		
m14	I know what I want for myself and I live parallel to that (excluded before 18 item analysis)	.63	.50	.56	.57						
m15	I live a colorful life	.21	.80	.81	.16	.80	.20	.81	.17	.81	.17
m16	I feel in life	.43	.78	.78	.41	.78	.41	.78	.40	.78	.40
m17	I feel as a part of the universe	.37	.68	.63	.43	.62	.44	.62	.43	.62	.43
m18	I have strong feelings about why I came to life and I live parallel to that (excluded before 21 item analysis)	.69	.43								
m19	I feel mostly honest to myself	.49	.30	.19	.65	.19	.68	.19	.67	.19	.68
m20	I live in a way that I want	.45	.67	.75	.35	.76	.32	.76	.33	.76	.33
m21	I live a life that I love	.53	.67	.73	.44	.75	.42	.75	.42	.75	.42
m22	I live in harmony with myself	.55	.64	.65	.55	.66	.53	.66	.53	.66	.53
m23	I live by having the taste of life	.39	.82	.84	.34	.84	.33	.84	.33	.85	.33
m24	I feel that I exist in a concrete / a strong way (excluded before 17 item analysis)	.45	.63	.58	.51	.58	.53				

Note: The coefficients are factor loadings for the two factors Liveliness (LN) and Authenticity (AU). The highlighted items had similar loadings on both factors (difference < .1), and were excluded from subsequent analyses.

Reliability

First an item analysis for the reduced 16-item Meta Needs Questionnaire was conducted, then the sub-scales were examined separately. Cronbach`s alpha was α = .95 and item total correlations were generally high (range .54-.83, mean = .73). Cronbach´s alpha for the 10-item LN sub-scale was α = 0.95 and item total correlations were high (range .53-.85, mean = .77). For the 6-item AU sub-scale Cronbach´s alpha was α = 0.88 and item total correlations were high (range .55-.76, mean = .69). In none of the three analyses any items had to be removed, since the biggest possible gain in Cronbach´s alpha if item deleted, in all the analyses, was negligible (+.004).

To assess split-half reliability the adjusted Spearman-Brown formula was used: $\mathbf{r_{sb} = 2r_{xy} / (1+r)}$ where r_{sb} represents the split-half reliability coefficient, and r_{xy} the correlation between the two halves of the sub-scale. I randomly split the *Liveliness* sub-scale in two halves by assigning the three items with the highest index *(m21, m22, m23)* and the two with the lowest *(m3, m8)* to the *first half*. The *other half* consisted of items *m9, m15, m16, m17, and m20*. The correlation was r=.90, p<.01), and reliability was r_{sb}=.95.

Split-half reliability for *Authenticity* was assessed by randomly assigning the two items with the highest *(m11, m19)* and the one with the lowest index *(m4)* to the *first half. M5, m6, and m7* became assigned to the *second half* . The correlation was r=.77, p<.01, and reliability r_{sb} =.87. In summary, the MNQ and the two sub-scales show high reliability.

Validity

The reduced 16-item MNQ showed a negative correlation with depression (-.51, p<.01) , and a smaller negative correlation with anxiety (-.21, p<.01). The correlations of Liveliness with depression (-.52, p<.01) and anxiety (-.22, p<.01) were slightly higher than those of the Authenticity sub-scale with depression (-.45, p<.01) and with anxiety (-.17, p<.01).

Significant (p<.01) correlations with the total score of the MNQ (coefficients ranging from -.22 to -.49), with AU (-.21 to -.53) and with LN (-.21 to -.51) were found for 16 of the 18 schemas. Two schemas Unrelenting Standards/Hypercriticalness (US) and Self-Sacrifice (SS) formed a notable exception and did not correlate significantly with the Meta Needs (correlations with AU, LN and the total MNQ all between -.06 and +.1, (p>.05). To further explore this issue, the correlation which US and SS had with depression and anxiety was compared against the correlations that other schemas had. As Table 4 shows, their correlations were also in this respect among the weakest. Only one schema Emotional Inhibition (EI) had a smaller correlation coefficient with anxiety (r=.06, p>.05), and Entitlement/Grandiosity (ET) was the only schema which correlated with depression (r=.15, p>.01) less than US and SS.

Table 4 Correlations of the Meta Needs total score and Authenticity and Liveliness sub-scales with depression, anxiety and schemas

	MNQ_AU	MNQ_LN	MNQ_total	BDI_total	BAI_total	M	*SD*
MNQ_AU	1,00					15,99	6,68
MNQ_LN	.79	1,00				23,42	11,21
MNQ_total	.91	.97	1,00			39,41	17,00
BDI_total	-.45	-.51	-.51	1,00		18,20	9,83
BAI_total	-.17	-.22	-.21	.55	1,00	18,38	12,31
ED	-.35	-.39	-.40	.32	.16	5,96	5,58
AB	-.34	-.27	-.31	.39	.31	9,94	5,24
MA	-.22	-.27	-.26	.30	.29	10,09	5,67
SI	-.51	-.50	-.53	.48	.23	10,25	5,90
DS	-.53	-.42	-.49	.46	.19	6,03	5,44
FA	-.35	-.25	-.30	.46	.17	5,95	5,51
DI	-.45	-.36	-.42	.47	.24	5,20	5,09
VH	-.26	-.35	-.33	.32	.39	9,20	5,48
EM	-.23	-.28	-.27	.28	.27	7,92	5,39
SB	-.35	-.32	-.35	.41	.24	8,49	5,35
SS	.10	-.01	.03	.17	.12	11,97	5,56
EI	-.31	-.27	-.30	.24	.06	7,20	5,44
US	.02	-.06	-.03	.16	.13	13,64	5,24
ET	-.21	-.21	-.22	.15	.16	13,05	4,74
IS	-.43	-.35	-.40	.30	.15	11,44	5,01
AS	-.30	-.29	-.31	.26	.18	14,12	5,32
NP	-.25	-.34	-.32	.36	.34	11,50	5,58
PU	-.23	-.20	-.22	.29	.15	10,12	4,5

Note: To enhance readability, correlations between schemas have been omitted, since they were not relevant for the analysis. Correlations between schema- and Meta Needs measures were found to be highly significant ($p<.01$) except for those with Unrelenting Standards (US) and Self-Sacrifice (SS) ($p>.05$).
Abbreviations: MNQ_total=total score of Turkish Meta Need Questionnaire (MNQ); *MNQ_AU*=Authenticity sub-scale of MNQ; *MNQ_LN*=Liveliness sub-scale of MNQ; *BDI_total*=Turkish Beck Depression Inventory-II total score; *BAI_total*=Turkish Beck Anxiety Inventory total score.
Schemas from the Turkish Young Schema Questionnaire - Short form-3 (YSQ-S3): ED=Emotional Deprivation, *AB*=Abandonment/Instability, *MA*=Mistrust/Abuse, *SI*=Social Isolation/Alienation, *DS*=Defectiveness/Shame, *FA*=Failure, *DI*=Dependence/Incompetence, *VH*=Vulnerability to Harm or Illness, *EM*=Enmeshment/Undeveloped Self, *SB*=Subjugation, *SS*=Self-Sacrifice, *EI*=Emotional Inhibition, *US*=Unrelenting Standards/Hypercriticalness, *ET*=Entitlement/Grandiosity, *IS*=Insufficient Self-Control/Self-Discipline, *AS*=Approval-Seeking/Recognition-Seeking, *NP*=Negativity/Pessimism, *PU*=Punitiveness.

DISCUSSION AND CONCLUSION

In line with humanistic psychotherapists like Maslow (1971) and Existential Psychotherapy (Prochaska & Norcross, 2010), it was proposed that there exist human Meta Needs that encompass broad concepts of life fulfillment, and are different from the core emotional needs as known in Schema Therapy. To investigate this new concept, a Meta Needs Questionnaire (MNQ) was developed. The items were derived from patient's responses to a series of questions about the positive function of their symptoms, which appeared to also serve as a maladaptive attempt to meet their Meta Needs.

Meta Needs may help to better systematize, classify and understand the nature of existentialist themes that have long been described by existentialist philosophers (Stanford Encyclopedia of Philosophy, 2010). Examples of such themes are to find meaning in life, feelings of completeness, harmony with oneself and the world, finding joy and fulfillment in one's life, instead of living a life that feels alien to oneself, and to not fully express oneself as a person (similar to the items of the MNQ, compare with figure 1). Meta Needs may be a promising approach to explain these experiences in terms of fulfilled and unfulfilled Meta Needs. If the relationship between Meta Needs, schemas, core emotional needs, and clinical symptoms can be clarified, therapists and other mental health professionals may benefit from an enhanced model. Formerly ill-defined problems like unattained self-fulfillment, spiritual suffering and crises could potentially be better understood and broken down into their 'components' (unfulfilled Meta Needs, core emotional needs, schemas, coping styles, etc.).

Using exploratory factor analysis, two underlying factors of the MNQ were identified confirming the hypothesis that fewer variables underlie the variety of items. As expected, some of the items had to be excluded because of their highly similar content, or ambiguous factor loadings. If an oblique rotation method had been chosen, the factor loadings would have been more clear-cut, but with the orthogonal rotation it was easier to identify the most unambiguous items and exclude the others, thereby reducing bias that was potentially introduced by the observational nature of the clinical procedure through which the items had been obtained. In accordance with their item content, the first factor was labeled "Liveliness" (LN), and the second "Authenticity" (AU). Although the factor analysis provided mixed evidence with regard to the choice of a one-factor or two-factor model, inspection of the item contents suggested that they could be better categorized with a two-factor model. The resulting item distribution across the two factors was found to be rather straightforward. The factors were clearly definable and their item contents allowed for an intuitive understanding of their meaning. It should be mentioned however, that this evaluation is not based on objective criteria and should therefore be evaluated with caution.

Item-analysis showed high reliability measures of the MNQ, also with regard to split-half reliability, indicating that the MNQ is a reliable tool to assess Meta Needs. The whole scale showed a moderate, negative correlation with depression, and a weak negative correlation with anxiety. This demonstrated construct validity, confirming the hypothesis, originally proposed by Maslow (1971, p.305), that

frustration of Meta Needs was linked to pathologies. The Liveliness sub-scale had stronger correlation coefficients than Authenticity. A possible interpretation is that experiencing the joy of life is more contradictory to depression and anxiety, than the items that the Authenticity sub-scale consists of. Authenticity may correlate with other symptoms stronger. Furthermore, both sub-scales correlated more with depression than with anxiety, which may be due to similar reasons.

It is not possible to infer any causal relationships from the correlation analyses, but nevertheless some speculation may support the development of ideas for future hypotheses. One could speculate because of the negative correlation between Meta Needs, depression and anxiety, that Meta Need fulfillment leads to less depression and anxiety, perhaps because the increased contentment with one's life leads to less negative automatic thoughts, and better interpersonal relationships. Alternatively, reducing anxiety and depression could lead to more Meta Need fulfillment, if one assumes that this would be easier to obtain in the absence of these negative symptoms. However, the correlation is weak with anxiety, and only moderate with depression, so a situation is also conceivable where the symptoms are cured, but Meta Needs remain unfulfilled, for example after a Cognitive Behavioral Therapy or Schema Therapy intervention. It could be a consequence that the symptoms are more likely to return. If this is the case, it could be beneficial to assess and treat Meta Needs for relapse and symptom prevention.

It was hypothesized that Meta Needs would negatively correlate with the schemas, which they did, thereby demonstrating criterion-related validity of the MNQ. Unrelenting standards/Hypercriticalness (US) and Self-Sacrifice (SS) were the only exceptions i.e. they did not correlate with the schemas. According to Rafaeli et al. (2011) US is characterized by an urge to attain extraordinary high standards, often accompanied by pervasive perfectionism, rigid rules in many life circumstances, and worry about time and performance. SS is described as a strong motivation to meet the needs of other people. This is being perceived as far more important than meeting the own needs, which would lead to feelings of selfishness. Since the correlation with Meta Needs is close to 0, the question comes up why people with strong US and SS schemas apparently attain Meta Needs fulfillment as well as people who do not have these schemas. One interpretation would be that Meta Needs can be fulfilled independent from whether people strive excessively for perfection or are preoccupied with the fulfillment of other people's needs. Furthermore it is striking that US and SS correlations with anxiety and depression were almost the weakest among the other schemas. This could mean that US and SS are not indicative for both Meta Need fulfillment and psychological disorders.

The present study was conducted with Turkish participants, and cannot be generalized to populations from other countries. Furthermore the amount of participants who completed the MNQ (N=319) may not permit strong conclusions, and was further limited because not all participants completed the other questionnaires (see Table1). Gender distribution was not equal (men=95, women=224). Furthermore the study did not control for age effects, and only included patients with relationship problems or with a diagnosis of an anxiety disorder or depression. No other populations of patients and no healthy controls were tested. The design of this study was cross-sectional, which does not permit conclusion about changes in Meta Needs, symptoms, and schemas over time. The

correlational nature of the research does not allow inferring causal relationships, and no test-retest reliability was measured. It is not clear to what extend the questionnaire encompasses all relevant Meta Needs, i.e. content validity was not assessed.

It is possible that regression analysis would shed more light on the relationships between clinical symptoms, Meta Needs and schemas. Future research should further test validity and reliability with different samples and use confirmatory factor analysis to verify the two-factor structure of the MNQ. If the questionnaire continues to show good reliability and validity, its relationship with clinical symptoms, schemas, coping styles, and schema domains should be explored by means of structural equation modeling. In addition, the same approach could demonstrate if these relationships explain more variance in clinical symptoms than the Schema Therapy concept without the Meta Needs. Moreover, the clinical validity of the MNQ in predicting change in symptoms during treatment should be determined in future studies. As a conclusion Meta Needs seem to be a promising concept for systematizing broad schemes of life fulfillment that are known from existentialist philosophers and humanistic psychotherapists like Maslow. Correlations with schemas and clinical symptoms of depression and anxiety were found, and the new Meta Needs Questionnaire was shown to be a valid and reliable tool for assessing Meta Needs.

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