

ARTICLES

The Early Maladaptive Schema Questionnaire–Short Form: A Construct Validity Study

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N. B. Schmidt, T. E. Joiner, J. E. Young, and M. J. Telch (1995) provided preliminary construct validity for scores from J. E. Young's (1990) 205-item Early Maladaptive Schema Questionnaire. The present study extends this work by examining the construct validity of scores from the shorter 75-item version of this instrument—the Early Maladaptive Schema Questionnaire-Short Form (J. E. Young, 1994).

Cognitive therapy holds a prominent place among theories of psychotherapy, empirically derived treatments, and efficacy studies of therapy outcome (J. S. Beck, 1995). Useful concepts, such as cognitive schemas, are well integrated among various cognitive therapies, and, yet, the empirical study and construct validation of specific cognitive schemas remain to be systematically investigated. The focus of the current investigation is to provide construct validity for specific cognitive schemas, measured by the Early Maladaptive Schema Questionnaire-Short Form (EMSQ-SF; Young, 1994), by examining their relationships with common clinical symptoms.

The concept of schema functioning is acknowledged and defined by the major theoretical domains within cognitive psychotherapy as follows: (a) global, rigid, and overgeneralized core beliefs that operate at a fundamental cognitive level (J. S. Beck, 1995); (b) internal working models of relationship events that are particularly influenced by early relationships (Robins & Hayes, 1995); (c) abstract cognitive structures that comprise or generate patterns or themes of experience (Mahoney, 1991); (d) cognitive structures, or relatively enduring representations of prior knowledge and experience, that are stored in memory (Neimeyer, 1985); and (e) organized elements of past interactions and expectations, constituting a relatively consistent knowledge base that has the potential for guiding perception and appraisals (Segal, Hood, Shaw, & Higgins, 1988).

Although the process function of schema theory has been adapted and integrated into cognitive psychotherapy (A. T. Beck, 1967; Brewer & Nakamura, 1984; Goldfried & Robins, 1983; Hollon & Kriss, 1984), there have been surprisingly few efforts made to advance the development, assessment, and application of schema theory within cognitive psychotherapy. Young (1990, 1994) has conducted one prominent line of research, resulting in the theoretical emergence of early maladaptive schemas (EMSs). Young (1994) described EMSs as “extremely stable and enduring themes that develop during childhood

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and are elaborated upon throughout an individual's lifetime" (p. 9). Young (1990) argued "rather than resulting from isolated traumatic events in childhood, most schemas are probably caused by ongoing patterns of everyday noxious experiences with family members and peers which cumulatively strengthen the schema" (p. 11).

Young (1990) posited that an EMS rests at the deepest level of cognition and that the individual is not always aware of the impact that EMSs have on emotions and behavior. He suggested that EMSs are enduring themes (or frames of reference) that develop during childhood and are revised and expanded further throughout the course of an individual's life. Young (1990) further suggested that EMSs differ from negative automatic thoughts (i.e., basic dysfunctional thoughts about the self, the world, and the future) in that the former do not offer the possibility of success for the individual. In addition, the triggering of an EMS results in a more drastic change of affect than does a negative automatic thought because it is intertwined with the individual's core self-concept. Similar in part to Rotter's (1966) conceptualization of the external locus of control and Seligman's (1975) theory of learned helplessness, EMSs may foster the attitude that the dreaded outcome is inevitable regardless of attempts to control the outcome.

Young (1990, 1994) has hypothesized a delineation of schemas that describe and define relatively discrete areas of maladaptive functioning. These schemas represent core-processing domains that may manifest into interpersonal/relational malfunctioning or in more extreme levels of development and personality disorders. Young (1994) defined this classification of schemas as the following:

- Abandonment/Instability: perceived instability, unreliability, and lack of needed support and emotional connectedness with significant people in one's life
- Defectiveness/Shame: the constant feeling that one is inwardly defective, flawed, or invalid; that one would be fundamentally unlovable to significant others if exposed; a sense of shame regarding one's perceived internal inadequacies
- Dependence/Incompetence: the belief that one is incapable of handling day-to-day responsibilities in a competent manner, without assistance from others
- Emotional Deprivation: the expectation that one's emotional needs will not be adequately met by others
- Overcontrol: the excessive inhibition of spontaneous action, feeling, or communication—usually to avoid making mistakes, disapproval of others, catastrophe and chaos, or losing control of one's impulses
- Enmeshment/Undeveloped Self: overinvolvement and emotional closeness with one or more significant others at the expense of full individuation or normal social development
- Entitlement/Self-Centeredness: insistence on acquiring whatever one wants regardless of the expense to others
- Failure: the belief that one has failed, will inevitably fail, or that one is generally inadequate to one's peers
- Insufficient Self-Control/Self-Discipline: a pervasive difficulty maintaining self-control, low-frustration tolerance in achieving goals; a tendency to be impulsive
- Mistrust/Abuse: the expectation that others will only hurt, manipulate, take advantage of, or interact with violence or anger
- Subjugation: surrendering control over one's own decisions and preferences, often as a means of avoiding anger, retaliation, or abandonment
- Social Isolation/Alienation: the feeling that one is isolated from the rest of the world, different from other people, or not part of any group or community
- Self-Sacrifice: excessive focus on meeting the needs of others in daily situations, at the expense of one's own gratification

- Unrelenting Standards: a persistent striving to meet high or unrealistic expectations of oneself or others, at the expense of one's own well-being
- Vulnerability to Danger/Random Events: an exaggerated fear of impending random catastrophe, with a lack of confidence in the ability to protect one's self

The theoretical concept of schema functioning is applicable to both normal and clinical populations; however, it may be particularly useful as a diagnostic and therapeutic tool. The fundamental role of the schema construct in cognitive therapy compels further investigation of the schema as a theoretical concept and as a useful tool in pursuit of thematic issues in therapeutic settings. In an effort to advance the development, assessment, and application of schema theory within cognitive psychotherapy, Young (1990) developed the 205-item EMSQ, containing 15 schema subscales, that measure the presence of the 15 EMSs that have been described.

Schmidt, Joiner, Young, and Telch (1995) conducted a psychometric investigation of the EMSQ in which the validity and the psychometric properties of the scores from EMSQ subscales were supported. Specifically, Schmidt et al. (1995) demonstrated the psychometric strength of the EMSQ by providing support for the factor structure of the instrument within nonclinical and clinical populations. Regression analyses demonstrated the construct validity of scores from the EMSQ by revealing EMSQ subscales as statistically significant predictors of measures of general distress, depression, and anxiety. In an effort to measure EMSs in a more "economical" way while retaining the validity, utility, and factor structure of the EMSQ, Young (1994) later derived the 75-item EMSQ-SF from a factor analysis of EMSQ scores. The present study was conducted to further contribute to the psychometric knowledge and the clinical usefulness of the EMSQ-SF in a clinical sample by demonstrating construct validity of scores in a similar way as attempted by Schmidt et al. for the EMSQ.

METHOD

Participants

A clinical sample of 188 (132 women and 56 men) outpatients participated in the current study and received psychotherapy treatments through a university-based counseling and psychotherapy training center. The majority of participants were referred to the training center from community mental health professionals. Many of the participants complained about depression and anxiety symptoms. Only the data from the participants who completed all of the study measures were included in the analysis. Forty-seven participants did not complete all of the measures examined. Thus, the data from a total of 141 (99 women and 42 men) outpatients were examined. The remaining sample was 94.3% Caucasian, 4.3% African American, .7% Hispanic, and .7% American Indian, with a mean age of 28.95 years ($SD = 7.80$, range = 18–52).

Instruments

Early Maladaptive Schema Questionnaire-Short Form (EMSQ-SF). The EMSQ-SF (Young, 1994) is a 75-item instrument that assesses the extent to which an individual retains particular early maladaptive (cognitive) schemas. The 75 items are grouped into 15 subscales, each consisting of 5 items intended to measure a specific EMS. Again, these items were selected as the best items (based on structure/pattern coefficients) from the original, longer version of this instrument (Young, 1994). Respondents are asked to rate items in terms of how they have felt throughout their lives on a 6-point Likert scale (1 = *completely untrue of me*, 2 = *mostly untrue of me*, 3 = *slightly more true than untrue*, 4 = *moderately true of me*, 5 = *mostly true of me*, and 6 = *describes me perfectly*). According to the scoring procedure for this instrument, items are

to be recoded so that an endorsement of a 5 or 6 on an item translates to a score of 1, and a score of 1 through 4 translates to a score of 0 (Young, 1990). Thus, each scale has a possible minimum score of 0 and a possible maximum score of 5. The primary rationale for this procedure is to ensure that EMSs are clearly endorsed before subscale scores are computed. The recoding procedure was employed before reliability and correlation analyses were computed.

The factor structure of the EMSQ-SF has been supported and further developed by hierarchical factor analysis (Lee, Taylor, & Dunn, 1999; Schmidt et al., 1995). Considerable internal consistency has been found for scores from all 15 of the EMS subscales. Schmidt et al. reported an average alpha coefficient of .86 for scores from the EMSQ. For the current study, alpha coefficients for EMSQ-SF subscale scores ranged from .71 to .93 (mean alpha = .83, $SD = .06$).

Symptoms Checklist-90-Revised (SCL-90-R). The SCL-90-R (Derogatis, 1983) is a self-report questionnaire that assesses nine symptom areas (including anxiety and depression) as well as three general indices of severity. Respondents are asked to describe how much discomfort each of the 90 items has caused them during the past 7 days on a 5-point Likert scale ranging from 0 (*not at all*) to 4 (*extremely*). Raw scores of the SCL-90-R are converted to T-scores, derived from one of the sets of norm tables provided in the manual. The normative samples used for this investigation were the norms of male and female psychiatric outpatients. The SCL-90-R was designed for use in clinical settings, and scores from the SCL-90-R have demonstrated considerable internal consistency (coefficient alphas ranging from .77 to .90; Derogatis, 1983; Derogatis & Lewis, 1994). Moderate construct validity of the scores from the SCL-90-R has been provided by correspondence with related constructs measured by the Millon Clinical Multiaxial Inventory-III (Millon, 1994). The Global Severity Index (GSI) was designed to measure the overall severity of psychological distress. Only the Anxiety, Depression, and GSI subscales of the SCL-90-R were examined in the current investigation.

Beck Depression Inventory (BDI). The BDI (A. T. Beck, Rush, Shaw, & Emery, 1979) is a standardized self-rating scale for levels of depressive symptoms consisting of 21 items. Ranging from 0 (*normal*) to 3 (*most severe*), four statements constitute each item of depressive symptoms. Respondents are asked to select the statement that most closely reflects their mood over the past week. The BDI has a minimum score of 0 and a maximum score of 63. Scores ranging from 10 to 18 represent mild to moderate indications of depressive symptoms. Scores ranging from 19 to 29 represent moderate to severe symptoms, and scores from 30 to 63 represent severe indications of depressive symptoms (A. T. Beck, Steer, & Garbin, 1988). High internal consistency (mean coefficient alpha = .86) and validity have been documented (A. T. Beck et al., 1988; Kendall, Hollon, Beck, Hammen, & Ingram, 1987).

Positive and Negative Affect Schedule (PANAS). The PANAS (Watson, Clark, & Tellegen, 1988) consists of 20 words that describe different feelings and emotions. It is a brief measure designed to assess emotional states and stable individual emotional characteristics. Respondents are asked to describe the extent to which they have felt a certain way during the past week by rating each word on a 5-point Likert scale ranging from 1 (*very slightly or not at all*) to 5 (*extremely*). The PANAS produces two subscale scores, one for Positive Affect (PA) and the other for Negative Affect (NA). PA represents an individual's tendency to feel enthusiastic, active, interested, excited, and alert, whereas NA refers to a dimension reflecting subjective distress, nervousness, fear, hostility, and unpleasant engagement. Tellegen (1985) reported that positive affect and negative affect are factors that represent affective trait dimensions of positive and negative emotionality (individual differences in positive and negative reactivity). A number of research studies have reported a relationship between positive affect, social activity, and satisfaction (Clark & Watson, 1988; Watson et al., 1988), whereas negative affect has been associated with self-reported stress and poor coping (Clark & Watson, 1988; Kanner, Coyne, Schaefer, & Lazarus, 1981).

Scores from the PANAS subscales have demonstrated high internal consistency and stability at appropriate levels over a 2-month period; coefficient alphas for PA subscale scores have ranged from .86 to .90, whereas coefficient alphas for NA subscale scores have ranged from .84 to .87 (Watson et al., 1988). Only the NA subscale of the PANAS was examined in the current investigation.

Millon Clinical Multiaxial Inventory-II (MCMI-II). The MCMI-II (Millon, 1987) is a standardized, self-report inventory consisting of 175 true-false statements that assess a wide range of information regarding an individual's personality, emotional adjustment, and attitude. The entire inventory consists of 4 modifying indices that serve as validity measures, 10 clinical personality pattern scales, 3 severe personality pathology scales, 6 clinical syndrome scales, and 3 severe syndrome scales. Results of factor analytic studies have supported the scale structure (Choca, Shanley, & Van Denburg, 1996; Hyer, Brandsma, & Boyd, 1997; McCann, 1991; Retzlaff, 1997; Retzlaff, Lorr, Hyer, & Ofman, 1991). Raw scores of the MCMI-II are converted to base rate (BR) scores to interpret the relative clinical meaning of profiles. Clinically meaningful BR ranges have been identified; however, BR scores at or below 60 are rarely interpreted (Millon, 1987). BR scores of 85 and above signify the "most prominent" disorder, 75 to 84 indicate "moderate" or the "presence of characteristics" of the disorder, and 60 to 74 reflect "mild" or "some of the traits" defined by the scale. Only the Anxiety and Major Depression subscales of the MCMI-II were examined in this investigation. Scores from these two subscales have demonstrated acceptable internal reliability (alpha coefficients of .94 and .90 respectively; Millon, 1987).

Procedure

During the intake procedure, an intake clinician asked each individual to participate in the study. All the individuals who were approached agreed to participate. Each participant permitted us to use his or her results for research purposes by completing an informed consent. The administration of each assessment instrument was conducted during the intake session. Participants were then asked to complete the EMSQ-SF, SCL-90-R, BDI, PANAS, and MCMI-II. No other data were collected from the participants.

Data Analysis

Pearson product-moment correlations among all study measures were computed to examine the relationships between EMSs and other measures of general symptomatology. In Study 3 of Schmidt et al. (1995), investigators attempted to reveal the relative construct validity of EMSQ scores by examining the degree to which EMSQ subscales predicted the BDI, as well as the GSI and Anxiety subscales of the SCL-90-R. However, EMSQ subscales were examined along with the Dysfunctional Attitudes Scale (DAS; Weissman, 1979) and the Rosenberg Self-Esteem Questionnaire (Rosenberg, 1965). Schmidt et al. also analyzed their data using stepwise regression methods. In an effort to examine the construct validity of the EMSQ-SF scores and to use a more conservative approach to controlling for Type I errors, we computed comprehensive schema models by using the "enter method" of multiple linear regression analysis.

Specifically, we examined the explained variance of the BDI and the GSI and Anxiety subscales of the SCL-90-R, using all 15 of the EMSQ-SF subscales as the predictor variables. In addition, we examined the ability of EMSQ-SF subscales to predict other measures of general symptomatology (namely the Depression subscale of the SCL-90-R, the NA subscale of the PANAS, and the Anxiety and Major Depression subscales of the MCMI-II). Correlation results were considered in light of the family-wise error rate due to the employment of a great number of statistical tests. For the correlation analysis, a Bonferroni correction of the family-wise error rate indicated that a p -level less than .0002 would be required to reach statistical significance. Thus, with a sample of 141 participants, the critical correlation value was .31.

RESULTS AND DISCUSSION

All study variable means are displayed in Table 1. Examination of these means does not suggest that all the participants in the sample initially reported to the counseling center with clinically significant levels of symptomatology. However, examination of the standard deviations suggests that several participants did, in fact, reach clinically significant levels of depression and anxiety. A majority of the correlations between study variables were statistically significant at the .0002 level of significance, with the exception of the Entitlement/Self-Centeredness subscale of the EMSQ-SF (see Table 1). Thus, the EMSQ-SF was correlated with other well-validated assessment instruments, as expected. Although the correlations between variables other than EMSQ-SF subscales suggest some overlap in the characteristics measured, it appears that some characteristics are separated by the constructs. Such a notion is supported by the correlations between the Depression subscale of the SCL-90-R, the BDI, and the Major Depression subscale of the MCMI-II, as well as the correlations between the Anxiety subscales of the SCL-90-R and the MCMI-II. These findings suggest that the inclusion of such variables, as criteria of EMSQ-SF subscales, permits a more comprehensive examination of clinical characteristics relative to those examined by Schmidt et al. (1995).

The relationship between EMSs and measures of psychological distress was examined by statistically controlling for each EMSQ-SF subscale in separate regression analyses. EMSQ-SF subscale scores accounted for 54% of the total variance in GSI scores, $F(15, 125) = 9.87, p < .001$; 54% of the total variance in BDI scores, $F(15, 125) = 9.26, p < .001$; and 50% of the total variance in Anxiety (SCL-90-R) scores, $F(15, 125) = 8.30, p < .001$.

In addition, EMSQ-SF subscales accounted for variance in other measures of general symptomatology. Specifically, EMSQ-SF subscale scores accounted for 49% of the total variance in Depression (SCL-90-R) scores, $F(15, 125) = 8.21, p < .001$; 38% of the total variance in PANAS-NA scores, $F(15, 125) = 4.92, p < .001$; 26% of the total variance in Anxiety (MCMI-II) scores, $F(15, 125) = 2.98, p < .001$; and 38% of the total variance in Major Depression (MCMI-II) scores, $F(15, 125) = 5.07, p < .001$. Standardized regression coefficients (betas) for each regression model are presented in Table 2.

The findings of our study largely support the psychometric soundness of the scores from the EMSQ-SF in a clinical sample. Several observations may be made from the statistically significant results as well as the conceptual patterns contributing to the clinical utility of the instrument.

Several statistically significant relationships were found between the 15 subscales of the EMSQ-SF and each measure of general symptomatology. All of the EMSQ-SF subscales, with the exception of Entitlement/Self-Centeredness, were significantly correlated with the majority of general symptomatology scales. A clinical implication of these findings is that high endorsements of EMS patterns seem to signal the presence of affective intensity, which includes stress, anxiety, depression, and negative affect.

The failure of Entitlement/Self-Centeredness to correlate with any measures other than the EMSQ-SF subscales is understandable in that none of the measures used as criteria contain validated subscales for measurement of any aspect of Entitlement/Self-Centeredness, which Young (1994) defined as the expectation that one should be able to act without regard for others.

With respect to the Schmidt et al. (1995) study of the EMSQ, the results of the current investigation suggest that scores of the EMSQ-SF possess a degree of construct validity comparable (and in some respects greater) to those of the EMSQ. Specifically, Schmidt et al.'s (1995) model for the GSI contained three EMSs (Vulnerability to Danger/Random Events, Dependence/Incompetence, and Insufficient Self-Control/Self-Discipline) and the DAS that accounted for 55% of the total variance. In our study, we found 54% of the variance in GSI scores to be accounted for when all 15 of the EMSs were included in the

TABLE 1
Means, Standard Deviations, and Intercorrelations Among Study Variables

Measure	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	M	SD
1	—	.43*	.51*	.31*	.29	.26	.21*	.35*	.39*	.41*	.45*	.37*	.32*	.34*	.39*	.52*	.49*	.50*	.56*	.42*	.24	.46*	0.93	1.53
2		—	.39*	.24	.45*	.30	.43*	.43*	.47*	.46*	.40*	.39*	.31*	.23	.54*	.39*	.31*	.28	.35*	.28	.23	.33*	0.24	0.66
3			—	.42*	.35*	.41*	.23*	.54*	.35*	.56*	.45*	.50*	.28	.42*	.56*	.49*	.44*	.47*	.57*	.47*	.24	.44*	0.48	1.12
4				—	.32*	.10	.06	.31*	.16	.36*	.26	.43*	.15	.40*	.28	.29	.28	.25	.31*	.26	.14	.22	1.22	1.68
5					—	.26	.34*	.36*	.46*	.36*	.36*	.38*	.15	.29	.34*	.39*	.29	.30	.23	.27	.18	.31*	0.43	0.96
6						—	.12	.14	.31*	.31*	.28	.21	.07	.26	.48*	.36*	.33*	.25	.31*	.24	.31*	.32*	0.37	0.87
7							—	.22	.45*	.24	.36*	.25	.29	.35*	.23	.19	.10	.17	.12	.21	.10	.13	0.49	0.78
8								—	.36*	.32*	.55*	.31*	.29	.41*	.39*	.46*	.40*	.45*	.52*	.35*	.26	.44*	0.34	1.07
9									—	.26	.38*	.37*	.28	.33*	.48*	.49*	.43*	.44*	.33*	.39*	.35*	.37*	0.72	1.26
10										—	.34*	.50*	.24	.29	.46*	.39*	.30	.28	.28	.24	.13	.28	0.33	0.84
11											—	.34*	.45*	.35*	.42*	.49*	.40*	.43*	.41*	.33*	.32*	.39*	0.50	1.08
12												—	.10	.35*	.25	.33*	.34*	.31*	.37*	.23	.30	.28	1.07	1.49
13														—	.29	.39*	.33*	.44*	.39*	.32*	.30	.36*	1.51	1.69
14															—	.56*	.56*	.45*	.51*	.50*	.32*	.36*	0.49	1.14
15																—	.88*	.91*	.71*	.73*	.65*	.77*	43.63	10.18
16																	—	.79*	.64*	.76*	.64*	.66*	43.07	9.64
17																		—	.75*	.73*	.64*	.80*	44.72	10.34
18																			—	.63*	.58*	.69*	13.56	10.32
19																				—	.52*	.58*	26.34	8.55
20																					—	.67*	54.38	30.79
21																						—	51.82	22.30
22																								

Note. N = 141. 1 = Abandonment/Instability; 2 = Defectiveness/Shame; 3 = Dependence/Incompetence; 4 = Emotional Deprivation; 5 = Overcontrol; 6 = Enmeshment/Undeveloped Self; 7 = Entitlement/Self-Centeredness; 8 = Failure; 9 = Insufficient Self-Control/Self-Discipline; 10 = Mistrust/Abuse; 11 = Global Subjugation; 12 = Social Isolation/Alienation; 13 = Self-Sacrifice; 14 = Unrelenting Standards; 15 = Vulnerability to Danger/Random Events; 16 = Global Severity Index; 17 = Anxiety (Symptoms Checklist-90-Revised); 18 = Depression (Symptoms Checklist-90-Revised); 19 = Beck Depression Inventory; 20 = Negative Affectivity; 21 = Anxiety (Millon Clinical Multiaxial Inventory-II); 22 = Major Depression (Millon Clinical Multiaxial Inventory-II).

* $p < .0002$.

TABLE 2

Regression Analysis Summary for EMSQ-SF Subscales Predicting Global Severity, Anxiety, Depression, and Affectivity Subscales

Predictor Variable	Criterion Variable																					
	GSI ^a			Anxiety ^a			Depression ^a			BDI			NA ^b			Anxiety ^c			Major Depression ^c			
	SE	B	β	SE	B	β	SE	B	β	SE	B	β	SE	B	β	SE	B	β	SE	B	β	
Abandonment/Instability	0.52	.22*	.23*	0.51	.23*	.25*	0.55	.30*	.30*	0.51	.17	.17	1.99	-.01	1.33	.22*						
Defectiveness/Shame	0.87	-.06	-.05	0.87	-.05	.04	0.91	.17	.17	0.87	.17	.17	3.35	-.07	2.23	.06						
Dependence/Incompetence	1.37	-.12	-.15	1.36	-.15	-.17	1.45	-.01	-.01	1.35	-.13	-.13	5.26	.01	3.50	.01						
Emotional Deprivation	0.46	-.05	.02	0.46	.02	0.49	0.47	-.01	-.01	0.45	.02	.02	1.76	-.03	1.17	-.07						
Overcontrol	0.84	.07	.01	0.83	.01	.03	0.88	-.03	-.03	0.82	.03	.03	3.12	-.02	2.08	.07						
Enmeshment/Undeveloped Self	0.91	.09	.07	0.91	.07	-.01	1.01	.05	.05	0.90	-.04	-.04	3.51	.17	2.33	.14						
Entitlement/Self-Centeredness	1.02	-.11	-.16	1.01	-.16	-.11	1.06	-.09	-.09	1.02	.02	.02	3.92	-.16	2.61	-.16						
Failure	0.84	.14	.10	0.83	.10	.14	0.88	.21	.21	0.83	.02	.02	3.22	.04	2.14	.20						
Insuff. Self-Control/Discipline	0.67	.13	.18	0.67	.18	.14	0.71	-.01	-.01	0.66	.11	.11	2.57	.19	1.71	.10						
Mistrust/Abuse	0.98	-.01	-.06	0.98	-.06	1.05	1.02	-.17	-.17	0.97	-.14	-.14	3.79	-.11	2.52	-.05						
Subjugation	0.82	.09	.07	0.81	.07	.07	0.87	-.05	-.05	0.81	.04	.04	3.13	.13	2.08	.03						
Social Isolation/Alienation	0.55	.22*	.14	0.55	.14	.27*	0.57	.14	.14	0.55	.07	.07	2.12	.08	1.41	.11						
Self-Sacrifice	0.51	.11	.17	0.50	.17	.10	0.52	.18	.18	0.50	.03	.03	1.94	.17	1.29	.09						
Unrelenting Standards	0.48	.07	.04	0.48	.04	.18	0.50	.08	.08	0.47	.07	.07	1.84	.15	1.22	.11						
Vuln. Danger/Random Events	0.79	.25*	.35*	0.79	.35*	.17	0.91	.17	.17	0.78	.33*	.33*	3.05	.11	2.03	-.01						

Note. EMSQ-SF = Early Maladaptive Schema Questionnaire-Short Form; GSI = Global Severity Index; BDI = Beck Depression Inventory; NA = Negative Affectivity; Insuff. Self-Control = Insufficient Self-Control/Self-Discipline; Vuln. Danger/Random Events = Vulnerability to Danger/Random Events.

^aSubscale of the Symptoms Checklist-90-Revised. ^bSubscale of the Positive and Negative Affect Schedule. ^cSubscale of the Millon Clinical Multiaxial Inventory-II.

*p < .001.

model. Abandonment/Instability, Social Isolation/Alienation, and Vulnerability to Danger/Random Events subscale scores each contributed statistically significantly to the explained variance in GSI scores over and above the other 12 subscales. Schmidt et al.'s model for the BDI contained 2 EMSs (Dependence/Incompetence and Defectiveness/Shame) that accounted for 33% of the total variance. In the current study, we found 54% of the variance in BDI scores to be accounted for when all 15 of the EMSs were included in the model. Only the Abandonment/Instability subscale score contributed statistically significantly to the explained variance in BDI scores over and above the other 14 subscales. Schmidt et al.'s model for the Anxiety subscale of the SCL-90-R contained three EMSs (Vulnerability to Danger/Random Events, Dependence/Incompetence, and Emotional Deprivation) that accounted for 34% of the total variance. In our study, we found 50% of the variance in the SCL-90-R Anxiety subscale scores to be accounted for when all 15 of the EMSs were included in the model. Abandonment/Instability and Vulnerability to Danger/Random Events subscale scores each contributed statistically significantly to the explained variance in the SCL-90-R Anxiety subscale scores over and above the other 13 subscales. The current investigation not only specifies the EMSs that are most closely related to common clinical symptoms but also demonstrates the advantage of considering all 15 of the EMSs when conceptualizing symptoms in terms of schema relevant components.

It is uncertain as to why there is such a lack of correspondence between Schmidt et al.'s (1995) models and those of the current study. However, potential explanations for these findings can be partly attributed to differences in the length and internal consistency of the two EMS instruments. Different findings may also be attributed to differences in multiple regression methods. We used the enter method multiple linear regression, whereas Schmidt et al.'s models were derived using the often criticized stepwise method.

Furthermore, construct validity of scores from the EMSQ-SF was provided by statistically significant variance explained in four additional measures of general symptomatology. Specifically, a model including all 15 of the EMSs accounted for a total of 49% of the variance in scores from the Depression subscale of the SCL-90-R. Abandonment/Instability and Social Isolation/Alienation subscale scores contributed statistically significantly to the explained variance in the SCL-90-R Depression scores over and above the other 13 subscales. A model including all 15 of the EMSs accounted for a total of 38% of the variance in scores from the NA subscale of the PANAS. Only the Vulnerability to Danger/Random Events subscale score contributed statistically significantly to the explained variance in NA scores over and above the other 14 subscales. Another model including all 15 of the EMSs accounted for a total of 26% of the variance in scores from the Anxiety subscale of the MCMI-II. However, none of the EMSQ-SF subscales scores contributed statistically significantly to the explained variance in Anxiety scores over and above the other 14 subscales. Finally, a model including all 15 of the EMSs accounted for a total of 38% of the variance in scores from the Major Depression subscale of the MCMI-II. Only the Abandonment/Instability subscale score contributed statistically significantly to the explained variance in Major Depression scores over and above the other 14 subscales.

The importance of Abandonment/Instability in each of the three depression models provides further validity evidence for scores from the EMSQ-SF. Abandonment/Instability was important in five of the seven models computed, whereas Vulnerability to Danger/Random Events was important in three models. These results suggest that a perceived lack of support and emotional connectedness with significant people, an exaggerated fear of impending random catastrophe, and a lack of confidence in the ability to protect one's self play important roles in the EMS structure of the general symptomatology.

Limitations

An obvious limitation of the present study regards the small sample size. However, the number of significant findings does not suggest spurious findings; yet a larger sample size would be advantageous to such an investigation. Larger sample sizes with higher levels of symptomatology may reveal other relationships not identified through small samples. Limitations inherent in the use of the measures used in the present study, such as reliability and validity, should also be recognized.

We collected data from our participants during the intake procedure. Because self-descriptions and perceptions are often influenced by degrees of anxiety, depression, low self-esteem, confusion, and anger, data representing ways in which individuals think, feel, act, and react in real-life situations may be most inaccurate during the intake procedure (Widiger, 1993; Widiger & Sanderson, 1995). On the other hand, these were real clients with real presenting problems, and as a result, external validity is enhanced. Subsequent to rapport building, secondary symptoms are likely to subside to some degree and thus present an opportunity for more potentially accurate self-descriptions. On the other hand, Leon, Kopta, Howard, and Lutz (1999) have recently found support for the notion that patient profiles, completed during the intake procedure, can serve as strong predictors of psychotherapy outcome.

Although the internal validity of the study is not a serious concern, the homogeneity of the sample serves as a limitation in regard to external validity. The homogeneity of the general clinical sample, in regard to race, minimized the potentiality of cultural differences in the analysis and interpretation of results. Subsequent investigations may provide more external validity if samples are more heterogeneous, regarding race or ethnicity. Furthermore, subsequent investigations may improve in design by accounting for variables such as educational level, intelligence, ethnicity, or socioeconomic status.

Overall, the EMSs accounted for a considerable portion of the variance in predicting psychological distress among the seven criterion variables. These findings suggest that there is some divergence between EMSs associated with depression and those associated with anxiety. In summary, these findings support the notion that the EMSQ-SF is able to differentiate between the affected domains of depression and anxiety and underscore the construct validity of scores from the EMSQ-SF as clinically useful indicators of distress.

Clinical Usefulness of the EMSQ-SF

The EMSQ-SF has the potential to be a valuable tool in the assessment of personality disorders, Axis I and Axis II diagnoses, and, most important, the primary EMSs that may preoccupy a client's thinking. The present study demonstrates the relationship between the EMSs and states of psychological distress. To the extent that types of clinical distress are symptoms of schema structure, therapists may through assessment procedures determine a cluster of schema symptoms that complement problem conceptualizations and treatment plans (Sperry, 1999; Young, 1990).

Tendencies revealed in the current investigation might serve as specific recommendations for counselors who focus on schema change, especially with clients experiencing depression and anxiety-related symptomatology. For example, Abandonment/Instability and Vulnerability to Danger/Random Events seem to be important components of depression and anxiety symptoms, as well as the general severity of those symptoms. Such information may prove useful to counselors who have adopted schema modification and schema reinterpretation techniques (A. T. Beck, Freeman, & Associates, 1990; Freeman & Davison, 1997). Schema modification involves greatly modifying the absolute nature of the schema to one that is less restrictive. Schema reinterpretation involves reframing techniques to help a client reconceptualize an existing schema in more prosocial ways. Thus, a therapeutic goal for

clients with depression may be to modify frequent Abandonment/Instability self-statements. For example, a specific goal may be to move from "Everyone is unreliable and anyone I become emotionally connected to will be unable to give me the support I need" to "Not everyone is as unreliable as the people I've been emotionally connected to in the past; there is someone out there who can give me the support I need." A specific schema reinterpretation goal, for the client with high levels of anxiety, may be to help the client in reframing low frustration and impulsive tendencies as possessing excess energy. Perhaps a follow-up goal for such clients would be to test the hypothesis that this excess energy can be more prosocially expended through engaging in recreational activities or relaxing times alone.

Because the EMSQ-SF identifies domains of EMS activation and may classify high versus low intensity of schema presence, the instrument is clinically useful in discerning thematic and symptomatic problem presentations and thereby promotes the efficiency of accurate diagnosis and formulation of treatment plans. Furthermore, scores from the EMSQ-SF, as demonstrated by the present study, successfully cluster schemas by symptom domain, thereby providing useful information for therapeutic interventions of choice and relational decisions.

The conceptual domain of schema theory is an important area of research, given the tacit acceptance and integration of schema constructs in cognitive psychotherapy. The further classification of EMSs related to symptom domains, diagnostic descriptions for treatment planning, and inquiry of the relationships between schema development and commonly diagnosed personality disorders are in order.

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