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Relationships Between Early Maladaptive Schemas and Psychosocial Developmental Task Resolution

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In schema therapy, early maladaptive schemas (EMS) are hypothesized to be the result of adverse relational experiences in childhood that hinder the resolution of important psychological developmental tasks. The purpose of the present study was to examine the relationships between EMS and the resolution of the developmental tasks that are described in Erikson's scheme of personality development. One hundred and forty-five adult psychiatric outpatients completed measures of EMS and resolution of psychosocial development tasks at two occasions. Results from correlational and regression analyses showed that EMS are generally associated with unsuccessful psychosocial task resolution. Furthermore, schema change predicted changes in the resolution of developmental tasks. These findings give support to Young's theory of schema development. Copyright © 2009 John Wiley & Sons, Ltd.

Key Practitioner Message:
- Early maladaptive schemas and negative resolution of psychosocial developmental tasks are closely linked.
- Changes in early maladaptive schemas predict changes in psychosocial developmental task resolution.

Keywords: Early Maladaptive Schemas, Schema Therapy, Developmental Tasks, Erikson, Cognitive Therapy

To identify, understand and modify an individual's schemas is an essential part of cognitive therapy for personality disorders (Beck, Freeman, Davis, & Associates, 2004; Freeman & Jackson, 1998; Leahy, Beck, & Beck, 2005; Padesky, 1994; Young, Klosko, & Weishaar, 2003). Segal (1988) defines schemas as consisting of 'organized elements of past reactions and experience that form a relatively cohesive and persistent body of knowledge capable of guiding subsequent perception and appraisals' (p. 147). Thus, the function of schemas is to organize information, give meaning to experiences and to govern behaviour. In cognitive therapy, the schema concept has a central role as it is proposed that cognitive schemas constitute the central pathway to psychological functioning and adaptation (Alford & Beck, 1997). Dysfunctional cognitions, feelings and behaviour are assumed to be the result of the operation of maladaptive schemas (Kovacs & Beck, 1978). In personality disorders, these maladaptive schemas are hypervalent, overgeneralized, rigid and resistant to change (Beck et al., 2004). Beck and colleagues have described the schemas that

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characterize the DSM-IV personality disorders and cognitive techniques for their treatment (Beck et al., 2004; Butler, Brown, Beck, & Grisham, 2002).

Schema therapy (ST; Young, 1999; Young et al., 2003) is an alternative model that builds on Beck's cognitive model (Beck, Rush, Shaw, & Emery, 1979), but integrates elements from a broad range of other therapeutic approaches (e.g., Gestalt therapy, attachment theory, psychodynamic therapies) in order to treat patients with personality disorders or chronic and difficult-to-treat psychological problems. In ST, Young proposes a subset of schemas, early maladaptive schemas (EMS), as the core of longstanding charactological problems and personality disorders (Young & Gluhoski, 1996). The current definition of EMS is 'a broad, pervasive theme or pattern, comprised of memories, emotions, cognitions, and bodily sensations, regarding oneself and one's relationships with others, developed during childhood or adolescence, elaborated throughout one's lifetime and dysfunctional to a significant degree' (Young et al., 2003, p. 7).

Young (1999) uses a developmental approach to the understanding and classification of schemas. According to Young et al. (2003), EMS develop when psychological core needs in childhood are repeatedly thwarted or inadequately met. These core needs are secure attachment to others, autonomy, competence, sense of identity, freedom to express valid needs, spontaneity and play, and realistic limits and self-control (Young, 1999). Early in childhood, adverse experiences with the closest family members are the main cause for the development of an EMS. Later, as the child grows up, peers and the community become more important (Young et al., 2003). Referring to Erikson (1950), Young et al. (2003) argue that unsuccessful psychosocial task resolution leads to maladaptive schemas. An EMS is the result of the child's attempt to make sense of recurrent, negative social experiences as, e.g., parental rejection, unpredictability, traumatization, lack of appropriate boundaries, invalidation of emotional expression or unreasonably high demands (Young et al., 2003). EMS are fundamentally interpersonal in nature as they concern the deepest beliefs about relationships with significant others (Bernstein, 2005). They perpetuate themselves throughout life by operating in a manner that enables the individual to maintain stable and consistent beliefs about the self, others and the world (Bernstein, 2005; Young, 1999).

Based on clinical experience, Young (1999) described 18 EMS (Table 1). These EMS are grouped in five domains, corresponding to the frustration of the proposed emotional core needs of a child. The disconnection and rejection domain consists of EMS that involve the expectation that one's needs for security, safety, nurturance and respect will not be met. The EMS of the impaired autonomy and performance domain refer to the perceived lack of ability to function independently and perform successfully. The impaired limits domain comprises two EMS involving the lack of appropriate limits and sufficient self-control to achieve one's goals. The EMS of the other-directedness domain consist of an excessive focus on desires, feelings and reactions of others. The EMS of the overvigilance and inhibition domain refer to beliefs concerning suppressing spontaneous feelings and impulses and internalized rigid rules about performance and behaviour. Factor analytic studies of a measure of EMS, the Schema Questionnaire (SQ) and its short form (SQ-SF) have largely supported the distinctiveness of the suggested EMS (e.g., Hoffart et al., 2005; Lee, Taylor, & Dunn, 1999; Schmidt, Joiner, Young, & Telch, 1995) and found a higher order factor structure that fits some of the schema domains proposed by Young (1999).

In addition, meaningful relations of the SQ and SQ-SF with clinical disorders have been reported, e.g., social phobia (Pinto-Gouveia, Castilho, Galhardo, & Cunha, 2006), substance abuse (Brotchie, Meyer, Capello, Kidney, & Walker, 2004), eating disorders (Waller, Kennerly, & Ohanian, 2007), personality disorders (Jovev & Jackson, 2004; Petrocelli, Glaser, Calhoun, & Campbell, 2001; Reeves & Taylor, 2007), or chronic depression (Riso, Maddux, & Santorelli, 2007). Studies also have indicated that EMS are related to recollections of adverse parenting (e.g., Harris & Curtin, 2002; Jones, Harris, & Leung, 2005; Muris, 2006; Shah & Waller, 2000) and childhood trauma (Cecero, Nelson, & Gillie, 2004). However, key concepts of Young's theory of schema development remain largely empirically untested. In order to understand and conceptualize the development of maladaptive schemas, it has been suggested to integrate well-established general developmental theories focusing on cognitive development and the role of early relational experiences with theory of schema development, e.g., Jean Piaget's theory of cognitive development (Leahy, 1995), Erik Erikson's psychosocial model (Freeman, 1993; Freeman & Martin, 2004) and John Bowlby's attachment theory (i.e., Guidano & Liotti, 1983; Leahy, 1995; Perris, 2000; Platts, Tyson, & Mason, 2002). However, attempts to empirically link concepts from these developmental theories with EMS have been scarce. Blissett et al. (2006),

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Table 1. J. Young's (1999) schema list

Early maladaptive schema	Description
	Disconnection and rejection domain
Abandonment/instability	The perception of instability or unreliability of significant others for emotional support, connection, and protection.
Mistrust/abuse	The expectation that others will hurt, lie or take advantage intentionally or as a result of negligence.
Emotional deprivation	The expectation that others will not adequately meet one's needs for nurturance, empathy, and protection.
Defectiveness/shame	The feeling that one is defective, unwanted, or flawed in important respects.
Social isolation	The feeling that one is fundamentally different and isolated from other people.
	Impaired autonomy and performance domain
Dependence	The belief that one needs considerable help from others to cope with one's everyday responsibilities.
Vulnerability to harm	The exaggerated fear that an imminent and unpreventable catastrophe will strike at any time.
Enmeshment	The emotional overinvolvement with significant others and insufficient individual identity.
Failure	The belief that one is fundamentally inadequate in areas of achievement.
	Impaired limits domain
Entitlement	The belief that one is superior to other people and entitled to special rights and privileges.
Insufficient self-control	The pervasive difficulty or refusal to exercise sufficient self-control and frustration tolerance to achieve one's personal goals, or control expression of one's emotions and impulses.
	Other-directedness domain
Subjugation	The excessive surrendering of control to others and subjugation of needs and emotions to avoid anger, retaliation, or abandonment.
Self-sacrifice	The excessive focus on voluntarily meeting the needs of others in daily situations at the expense of one's own gratification.
Approval-seeking	The excessive emphasis on gaining approval from other people at the expense of developing a secure and true sense of self.
	Overvigilance and inhibition domain
Negativity/pessimism	A pervasive, lifelong focus on the negative aspects of life.
Emotional inhibition	The excessive inhibition of the expression of spontaneous action, feeling, or communication.
Unrelenting standards	The underlying belief that one must strive to meet very high internalized standards of behaviour and performance.
Punitiveness	The belief that people should be harshly punished who does not meet one's standards and expectations.

Cecero et al. (2004) and Mason, Platts, and Tyson (2005) have investigated the relationships between early maladaptive schemas and adult attachment style. Mason et al. (2005), e.g., reported that different forms of insecure attachment were characterized by different EMS, i.e., the fearful attachment style group had schemas involving emotional inhibition, mistrust, social isolation, defectiveness, dependence and subjugation, whereas the preoccupied attachment style was associated with the self-sacrifice, enmeshment and abandonment schemas.

The scope of the present study is to explore the relationships between EMS and the resolution of developmental tasks in the life span, using Erikson's (1950) psychosocial model of personality development as theoretical framework. The investigation of these relationships is important for several reasons. In schema therapy, it is proposed that EMS and the resolution of developmental tasks are closely interrelated. Adverse relational experiences in childhood are hypothesized to hamper the successful resolution of psychological developmental tasks and lead to the development of EMS. Later in life, EMS are assumed to be not only the underlying cause of recurring symptom disorders, but also problems with psychosocial

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functioning, e.g., destructive relationships or inadequate work performance (Young, 1999; Young et al., 2003). Although research has shown that EMS are associated with more negative life events (Schmidt & Joiner, 2004), the relationships between EMS and developmental task resolution have yet to be examined empirically. Furthermore, failure to resolve life tasks may maintain axis I and II disorders (Zarb, 2007). Therefore, developmental task resolution is suggested as target for psychological treatment when symptom relief is achieved (Pilkonis, 2001; Zarb, 2007). Knowledge about how EMS and the resolution of psychosocial developmental tasks are related may inform the clinician that EMS may underlie the unsuccessful resolution of a particular developmental task and how the positive resolution of this task may be promoted. Young et al. (2003) provide detailed treatment strategies for each EMS of their schema list.

Erik Erikson's (1950) psychosocial model provides a useful framework for the investigation of the relationships between EMS and developmental task resolution. In short, Erikson (1950, 1959) describes personality development as a life-long process of interaction between the individual and a widening social radius (from the first attachment figures early in life to mankind in old age). According to Erikson, the individual encounters eight different universal developmental tasks in life, also referred to as stages, crises or conflicts. Table 2 shows these tasks and the life themes they reflect. Although these developmental tasks are more compelling and important at particular ages, all exits from the beginning and are concurrent in all periods of life (Erikson, 1950). The manner in which these tasks are resolved forms dynamically the characteristics of the individual. Depending on successful or unsuccessful resolution of a developmental task, the individual acquires a more or less favourable ratio between positive or negative attitudes. Moreover, successful resolution of a task facilitates the resolution of later tasks, whereas failing may hamper the resolution of the other developmental tasks. In contrast to Freud's psychoanalytic theory, Erikson stresses the importance of the social environment and social interaction for personality development (Hoare, 2005). Further, Erikson assumes that task resolution is changeable and that the individual is not fixated at various psychosexual stages as Freud's theory suggests (Freeman, 1993; McCrae & Costa, 2003).

Table 2. The eight stages of Erikson's (1950) psychosocial model

Stage	Basic theme
1. Trust versus mistrust	Hope
2. Autonomy versus shame/doubt	Willfulness
3. Initiative versus guilt	Purpose
4. Industry versus inferiority	Competence
5. Identity versus role confusion	Fidelity
6. Intimacy versus isolation	Love
7. Generativity versus stagnation	Care
8. Ego integrity versus despair	Wisdom

Although Erikson's list of developmental tasks is not founded on quantitative and experimental data, it has face validity (Hall, Lindzey, & Campell, 1998) and has generated research on identity formation and correlates of stage measures. For example, Wang and Viney (1996) demonstrated the applicability and usefulness of Erikson's psychosocial model in different cultures (Chinese and Australian children). In Johnson's (1993) study, negative resolution of psychosocial stages predicted personality disorder symptomatology. Conway and Holmes (2004) showed in their study on autobiographical memory that the focus of the self changes in the life span in accordance with the Eriksonian model. McAdams and de St. Aubin (1992) have further elaborated the concept of generativity.

Parallels between Erikson's developmental model and Young's theory of schema development are evident. The focus on basic life themes in the life span and emphasis on social and societal influences on personality development makes Erikson's model especially suited for the investigation of the relationships between EMS and the resolution of psychosocial developmental tasks. Freeman (1993; Freeman & Martin, 2004) goes a step further by suggesting that the Eriksonian model provides a viable alternative to Young's classification of schemas in individuals with personality disorders.

The purpose of the present study is twofold. The study aims to examine the associations between EMS and the resolution of the psychosocial developmental tasks as described in Erikson's (1950) psychosocial model. A second purpose of the current study is to investigate the relationships between schema change and changes in psychosocial developmental task resolution.

The current study is explorative. However, EMS are, by definition, dysfunctional, and it is therefore expected that EMS are associated with the unsuccessful resolution of psychosocial tasks. Since the resolutions of the different tasks are not

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independent, as the resolution of a psychosocial task influences the resolution of the other tasks, it is hypothesized that EMS are related to several psychosocial tasks and not only to those that are most compelling early in life.

More specifically, on the basis of the definitions of EMS and descriptions of the eight psychosocial developmental tasks proposed by Erikson (1950), the following relationships are hypothesized: (1) successful resolution of the task of developing basic trust involves a sense of protection, comfort and hope for the future. The individual is confident that close relationships are stable, his/her needs will be satisfied and he/she is able to cope with experiences and desires. The EMS of the disconnection and rejection schema domain (abandonment, mistrust and emotional deprivation) and the dependence, failure, vulnerability, subjugation and insufficient self-control schemas are expected to be negatively related to the successful resolution of this developmental task. (2) The central theme of the developmental task of autonomy versus shame and doubt is the experience of autonomy of free choice, power and control, as opposed to self-consciousness and fear of being exposed as inadequate and powerless. It is hypothesized that the defectiveness/shame, dependence/incompetence, failure and subjugation schemas correspond to the negative resolution of this task. (3) The task of initiative versus guilt refers to an individual's sense of purposefulness. Undertaking, planning and goal-directed behaviour characterize successful resolution of this task, in contrast to feelings of aimlessness, guilt over the goals contemplated or self-restriction. The failure, dependence and subjugation schemas are proposed to be especially relevant to this task. (4) The focus of the psychosocial task of industry versus inferiority is on the development of a work ethos (i.e., learning, cooperation, production, completion of a job) and a sense of competence. Unsuccessful resolution of this task leads to feelings of inadequacy and despair about own skills and abilities. It is expected that the dependence/incompetence, failure, defectiveness/shame and insufficient self-control schemas, and, because of the social aspects of the production process, the social isolation and mistrust schemas interfere with the successful resolution of this developmental task. (5) According to Erikson (1950), identity involves the successful integration of various social roles and the experience of continuity and sameness with respect to own goals and values and an appreciation of one's own individuality and uniqueness. Of the schemas proposed by Young (1999), only the enmeshment schema addresses problems with identity development directly. It can be argued, however, that a negative sense of identity (e.g., disparity between who one is and who wants to be, or feelings of emptiness) is inherent to a number of schemas, especially defectiveness/shame, social isolation, abandonment, dependence/incompetence, failure, insufficient self-control, subjugation and emotional inhibition. (6) The developmental task of intimacy versus isolation refers to the capacity of an individual to establish and commit to intimate relationships and to share with and take care for another person. It is hypothesized that the EMS of the disconnection and rejection schema domain (abandonment, mistrust, emotional deprivation, defectiveness, social isolation) and the emotional inhibition schema correspond to unsuccessful resolution of this developmental task. (7) The basic theme of the task of generativity versus stagnation is care. According to Erikson (1950), successful resolution of this task is characterized by a deep interest in establishing and guiding the next generation, as opposed to self-absorption, self-indulgence and a sense of personal impoverishment. It is expected that the mistrust, social isolation, entitlement, emotional inhibition and insufficient self-control schemas are negatively related to this task. (8) Finally, the task of obtaining ego integrity (versus despair) involves the acceptance of the own unique life cycle, a sense that life has had meaning and significance and a feeling of comradeship with the ideas and pursuits of distant times. Negative resolution of this task is described as despair about lost opportunities, mistakes in the past and humankind in general. It is hypothesized that a number of EMS are associated with unsuccessful resolution of this task, especially the schemas of the disconnection and rejection domain, and the vulnerability, failure, dependence/incompetence, insufficient self-control, subjugation and emotional inhibition schemas.

METHOD

Participants

One hundred and forty-five psychiatric outpatients (74% women) from the outpatient clinics at Helgelandssykehuset Mo i Rana and Sykehuset Levanger in Norway participated in the study. Their mean age was 39.2 years (SD = 12.0, range = 18–67). Current marital status was married (31%), cohabitated (30%), single (27%), divorced/separated (10%) and widowed (2%). Patients were diag-

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nosed by psychiatrists and clinical psychologists according to the ICD-10 criteria. Sixty-one patients (42%) had two or more diagnoses. The most frequent diagnoses in the sample were depression (45%), social phobias (24%), agoraphobia (16%), post-traumatic stress disorder (10%), panic disorder (10%), personality disorders (9%), dysthymia (8%) and generalized anxiety disorder (7%).

Measures

Measures of Psychosocial Development (Hawley, 1988)

The Measures of Psychosocial Development (MPD) is a 112-item self-report inventory, designed to measure positive and negative attributes associated with successful und unsuccessful resolution of the eight psychosocial crises described by Erikson (1950). Items consist of short self-descriptive statements, e.g., 'optimistic, hopeful' (positive resolution of the stage of trust versus mistrust) or 'life has passed me by' (negative resolution of the stage of integrity versus despair). Items are answered on a five-point scale from 'very much like me' to 'not at all like me'. Resolution scores are obtained by calculating the difference between positive and negative attitudes for a particular stage. According to the manual, construct validity of the inventory has been tested by means of a multitrait-multimethod matrix design. Results indicated evidence of convergent and discriminate validity. In the current study, alpha coefficients of the MPD scales ranged from 0.57 (negative resolution of the crisis of initiative) to 0.82 (negative resolution of the crises of trust and integrity) with a median Cronbach's alpha of 0.72.

SQ-SF

The SQ-SF is a 75-item self-report inventory, designed to assess 15 EMS (abandonment/instability, mistrust/abuse, emotional deprivation, defectiveness/shame, social isolation/alienation, dependence/incompetence, vulnerability to harm or illness, enmeshment/undeveloped self, failure, entitlement/grandiosity, insufficient self-control/self-discipline, subjugation, self-sacrifice, emotional inhibition, unrelenting standards/hypercriticalness). The scales consist of the five highest-loading items from a factor analysis of the long form of the SQ (Schmidt et al., 1995). Respondents are asked to rate statements on a six-point Likert scale from 'completely untrue of me' to 'describes me perfectly'. A number of studies have shown that the SQ and the SQ-SF have adequate psychometric properties and comparable factor structure (e.g., Baranoff, Oei, Cho, & Kwon, 2006; Calvete, Lopez de Arroyabe, & Ruiz, 2005; Glaser, Campbell, Calhoun, Bates, & Petrocelli, 2002; Hoffart et al., 2005; Lachenal-Chevallet, Mauchand, Cottraux, Bouvard, & Martin, 2006; Oei & Baranoff, 2007; Stopa, Thorne, Waters, & Preston, 2001; Welburn, Coristine, Dagg, Pontefract, & Jordan, 2002). In the present study, SQ-SF scales showed good to excellent internal consistencies (Cronbach's alpha), ranging from 0.77 (entitlement) to 0.95 (failure) with a median Cronbach's alpha of 0.87.

Procedure

The study has been approved by the Regional Committee for Medical Research Ethics for Northern Norway and the Norwegian Social Science Data Services with respect to the collection and storage of patient information. Patients interested in participating in the study signed an informed consent form. The instruments were then mailed to the participants for completion at home. After 6 months, participating patients received the instruments a second time for completion. They were rewarded with a lottery ticket for their participation.

Analyses

Prior to data analyses, distribution of all variables was examined for normality. Highly skewed variables (the SQ-SF scales mistrust, defectiveness, failure, dependence, enmeshment, entitlement and insufficient self-control) were log transformed. Correlational and regression analyses were used to test the hypotheses regarding the relationships between EMS and psychosocial task resolution. First, SQ-SF and MPD scales were correlated. Next, eight MPD resolution scores were regressed on the 15 SQ-SF scales. Finally, in order to investigate the relationships between schema change and changes in psychosocial task resolution, resolution scores at Time 2 (T2) were regressed on change scores of the SQ-SF scales, while controlling for resolution scores at Time 1 (T1). All analyses were conducted by means of SPSS statistical programme.

RESULTS

Table 3 displays the correlation matrix between SQ-SF scales and MPD resolution scores. Given the large number of tests, a Bonferroni adjustment of the significance level ($p < 0.0004$; 0.05/120; 15

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Table 3. Correlations between SQ-SF Scales and MPD Resolution Scores

SQ-SF Scales	MPD Resolution Scores							
	Trust	Auto-nomy	Initiative	Industry	Identity	Intimacy	Genera-tivity	Integrity
Disconnection and rejection domain								
Emotional. deprivation	–0.37*	–0.31*	–0.27	–0.36*	–0.37*	–0.48*	–0.16	–0.39*
Abandonment	–0.57*	–0.48*	–0.29	–0.36*	–0.47*	–0.33*	–0.20	–0.49*
Mistrust	–0.68*	–0.44*	–0.27	–0.43*	–0.48*	–0.47*	–0.43*	–0.45*
Social isolation	–0.49*	–0.49*	–0.37*	–0.48*	–0.52*	–0.54*	–0.30*	–0.44*
Defectiveness	–0.57*	–0.53*	–0.33*	–0.44*	–0.61*	–0.49*	–0.31*	–0.57*
Impaired autonomy and performance domain								
Failure	–0.48*	–0.53*	–0.48*	–0.61*	–0.44*	–0.42*	–0.32*	–0.46*
Dependence	–0.58*	–0.57*	–0.30	–0.54*	–0.52*	–0.36*	–0.36*	–0.58*
Vulnerability	–0.57*	–0.47*	–0.28	–0.39*	–0.46*	–0.34*	–0.31*	–0.51*
Enmeshment	–0.32*	–0.38*	–0.11	–0.23	–0.32*	–0.27	–0.19	–0.31*
Other-directedness domain								
Subjugation	–0.54*	–0.60*	–0.42*	–0.44*	–0.65*	–0.51*	–0.27	–0.54*
Self-sacrifice	–0.05	–0.24	–0.04	0.06	–0.23	–0.08	0.25	–0.14
Overvigilance and inhibition domain								
Emotional inhibition	–0.45*	–0.45*	–0.35*	–0.34*	–0.42*	–0.62*	–0.39*	–0.36*
Unrelenting standards	–0.27	–0.36*	0.02	–0.06	–0.37*	–0.20	0.00	–0.20
Impaired limits domain								
Entitlement	–0.20	–0.06	0.15	–0.11	–0.22	–0.18	–0.25	–0.20
Insufficient self-control	–0.47*	–0.35*	–0.16	–0.48*	–0.43*	–0.40*	–0.43*	–0.45*

*$p < 0.0004$.
$N = 145$.
MPD = Measures of Psychosocial Development. SQ-SF = Schema Questionnaire-Short Form.

SQ-SF scales multiplied by eight MPD resolution scores) was applied. As shown in Table 3, all SQ-SF scales, with the exception of the self-sacrifice and entitlement schemas, were significantly negatively related to task resolution scores. Those EMS that were significantly correlated with MPD resolution scales had, as expected, several correlations with resolution scores, ranging from two to eight (M = 6.6). The hypothesized relationships between EMS and task resolution were largely confirmed. However, the proposed negative relationship between the developmental task of generativity and the entitlement schema did not reach the level of statistical significance set in the present study. Further, a number of non-hypothesized significant correlations emerged. Most correlations were in the range indicating a moderate effect size using Cohen's (1992) criteria. Strongly negatively correlated (>0.60) were the mistrust schema and the developmental task of trust, subjugation and the tasks of autonomy and identity, failure and the developmental task of industry, and emotional inhibition and the task of intimacy.

In order to further examine the relationships between resolution scores and EMS, a series of standard multiple regression analyses were conducted with each MPD resolution score as dependent and the SQ-SF scales as independent variables. Results of these analyses are presented in Table 4. Consistent with expectations, all MPD resolution scores were significantly predicted by the SQ-SF scales. Variance in MPD resolution scores accounted for by the SQ-SF scales (R^2) ranged from 0.44 (initiative) to 0.64 (trust), with a mean of 0.54 and a median value of 0.55. Significant individual predictors are also listed in Table 4. Contrary to expectations, the entitlement, unrelenting standards and self-sacrifice schemas had significant positive standardized regression weights with respect to the developmental tasks of trust (self-sacrifice), autonomy (entitlement), initiative, industry and generativity (unrelenting standards and self-sacrifice).

One hundred and eight participants (74% of the original sample) completed the SQ-SF and MPD again after approximately 6 months (M = 6.1, SD = 0.8). At that time, 65 patients (60%) still received treatment. The remaining 43 participants had been in therapy for 2.9 months in average (SD = 2.1) between the first and second completion of the inventories. Treatments the participants received between T1 and T2 included cognitive-

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Table 4. Multiple regression analysis predicting Measures of Psychosocial Development resolution scores from Schema Questionnaire-Short Form scales

Resolution scores	R^2	F	Significant predictors	β	t
Trust	0.64	15.20***	Mistrust	–0.37	–4.74***
			Emotional inhibition	–0.15	–2.38*
			Self-sacrifice	0.14	2.11*
Autonomy	0.56	10.96***	Entitlement	0.33	3.63***
			Dependence	–0.30	–3.15**
			Emotional inhibition	–0.20	–2.78**
			Unrelenting standards	–0.15	–2.02*
Initiative	0.44	6.71***	Failure	–0.31	–2.97**
			Emotional inhibition	–0.26	–3.18**
			Subjugation	–0.29	–2.61*
			Unrelenting standards	0.19	2.28*
			Self-sacrifice	0.17	2.09*
Industry	0.60	12.62***	Failure	–0.41	–4.51***
			Insufficient self-control	–0.30	–3.67***
			Unrelenting standards	0.17	2.33*
			Self-sacrifice	0.14	2.00*
Identity	0.53	9.61***	Subjugation	–0.32	–3.19**
			Defectiveness	–0.21	–2.11*
Intimacy	0.59	12.26***	Emotional inhibition	–0.42	–6.03***
			Insufficient self-control	–0.18	–2.12*
Generativity	0.46	7.25***	Self-sacrifice	0.31	3.90***
			Emotional inhibition	–0.25	–3.10**
			Mistrust	–0.24	–2.56*
			Unrelenting standards	0.19	2.35*
Integrity	0.51	8.77***	Defectiveness	–0.24	–2.34*

*$p < 0.05$. **$p < 0.01$. ***$p < 0.001$.
$N = 145$.

behaviourally oriented individual (85%) and group (40%) therapy and medications (39%). With respect to the prediction of psychosocial task resolution change from schema change, a series of hierarchical regression analyses were conducted with the eight MPD resolution scores at T2 as dependent variables. In the first step, MPD resolution scores from T1 were entered. Next, schema change scores from T1 to T2 were entered as a block. Results of these analyses are shown in Table 5. Changes in EMS predicted between 8% and 14% of the resolution scores at T2 (Mean R^2 change = 10.4), when controlled for MPD resolution scores at T1. Five of the eight R^2 change values were statistically significant at $p < 0.05$. Significant individual predictors are also displayed in Table 5.

As shown in Table 5, resolution change of the developmental task of trust was significantly predicted by changes in the insufficient self-control and failure schemas. Changes in the vulnerability schema accounted for a significant proportion of the variance in changes in the psychosocial tasks of initiative and industry of initiative. Resolution change of the developmental task of identity was predicted significantly by changes in the unrelenting standards, defectiveness and entitlement schemas. Schema change with regard to the emotional inhibition schema accounted for a significant proportion of variance in resolution scores for the task of intimacy. The subjugation and abandonment schemas were significant individual predictors of resolution changes of the developmental task of integrity.

DISCUSSION

The purpose of the current study was to examine the relationships between early maladaptive schemas and resolution of developmental tasks in

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Table 5. Prediction of MPD resolution scores at T2 from Schema Questionnaire-Short Form change scores after controlling for MPD resolution scores at T1

Dependent variables	Step	Predictors	R^2	R^2 change	Significant predictors (Step 2)	β	*t*
Trust at T2	1	Trust at T1	0.67				
	2	EMS change scores	0.78	0.11**	Insufficient self-control	–0.15	–2.34*
					Failure	–0.15	–2.05*
Autonomy at T2	1	Autonomy at T1	0.57				
	2	EMS change scores	0.65	0.08	None		
Initiative at T2	1	Initiative at T1	0.59				
	2	EMS change scores	0.68	0.09*	Vulnerability	–0.24	–2.99**
Industry at T2	1	Industry at T1	0.57				
	2	EMS change scores	0.68	0.11*	Vulnerability	–0.16	–2.06*
Identity at T2	1	Identity at T1	0.55				
	2	EMS change scores	0.69	0.14**	Unrelenting standards	–0.21	–2.83**
					Defectiveness	–0.19	–2.32*
					Entitlement	0.15	2.03*
Intimacy at T2	1	Intimacy at T1	0.52				
	2	EMS change scores	0.62	0.10	Emotional inhibition	–0.21	–2.61*
Generativity at T2	1	Generativity at T1	0.53				
	2	EMS change scores	0.61	0.08	None		
Integrity at T2	1	Integrity at T1	0.64				
	2	EMS change scores	0.76	0.12**	Subjugation	–0.24	–3.02**
					Abandonment	0.16	2.07*

*$p < 0.05$. **$p < 0.01$.
$N = 108$.
EMS = early maladaptive schemas. MPD = Measures of Psychosocial Development. T1 = Time 1. T2 = Time 2.

the life span as described in Erikson's (1950) scheme of psychosocial development. The study aimed to test the general hypothesis, derived from Young's (1999) theory of schema development, that EMS are associated with unsuccessful developmental task resolution. A second aim of the study was to explore if schema change predict changes in developmental task resolution. A sample of psychiatric outpatients completed measures of EMS (SQ-SF) and psychosocial task resolution (MPD) in order to investigate these research questions.

Results from correlational and regressional analyses revealed strong and theoretically meaningful relations between EMS and the eight developmental psychosocial tasks proposed by Erikson (1950). In line with expectations, EMS are generally associated with poor psychosocial task resolution. The specific hypotheses set forth with regard to the relationships between EMS and developmental task resolution were largely confirmed. In addition, a large number of non-hypothesized significant correlations emerged. As hypothesized, EMS were not specific for particular tasks, but most EMS were related to unsuccessful resolution of several psychosocial tasks. Some EMS and tasks displayed relatively strong correlations (>0.60), indicating a high degree of relatedness between the concepts they represent. For example, the subjugation schema, that refers to the excessive surrendering to others and subjugation of needs, was highly negatively related to the themes of autonomy and identity. The emotional inhibition schema involves the suppression of spontaneous feelings and actions. In the current study, this schema was strongly negatively correlated with the psychosocial task of intimacy, i.e., the capability to establish a close and caring relationship with someone, in which there is a sense of commitment. In order to ensure that these high correlations are not inflated by item overlap between the SQ-SF and MPD, the items of both inventories were compared. However, only one item was found to be almost identical in both inventories ('I feel that people will take advantage of me' in the SQ-SF and 'People take advantage of me' in the MPD). Removing this item from the analyses changed the results only marginally.

Results from regression analyses further confirmed a strong overlap between the presence of EMS and difficulties with developmental task resolution. Between 44% (initiative) and 64% (trust) of the variance in the MPD resolution scores were accounted for by the SQ-SF scales. Unexpectedly, three EMS (entitlement, self-sacrifice and unrelenting standards) were significant positive predictors

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of developmental tasks. The entitlement schema was a strong predictor of the task of autonomy. The self-sacrifice and unrelenting standards schemas predicted the tasks of trust, initiative, industry and generativity. This is a somewhat surprising finding, since the maladaptivity of these schemas with respect to psychopathology is well established (e.g., Nordahl, Holthe, & Haugum, 2005; Stopa et al., 2001; Welburn et al., 2002). Because relatively high intercorrelations between the SQ-SF scales may have influenced the results (despite non-significant multicollinearity statistics), significant individual predictors in the regression equations should be interpreted with caution (cf. Tabachnick & Fidell, 2007). However, these results may point out that the self-sacrifice, unrelenting standards and entitlement schemas also can have positive effects in some areas of psychosocial functioning, which again may maintain these schemas. Another interpretation might be that there are adaptive degrees of these schemas. In the case of the entitlement schema, e.g., it might be that moderately elevated scores are associated with an adaptive degree of assertiveness and forcefulness. These findings may support the critique of Freeman (1993) against Young's conceptualization of schemas. According to Freeman (1993), schemas are not necessarily or in themselves good or bad, adaptive or maladaptive, but the way in which the individual interprets or experiences these schemas.

Finally, the present study explored the associations between schema change and changes in developmental task resolution over a time period of approximately 6 months. The results indicated that schema change predict a substantial proportion (between 8% and 14%) of the variance in changes in developmental task resolution. For five of the eight MPD resolution scales (trust, initiative, industry, identity, integrity), R^2 change statistics were significant. With respect to statistical significance of individual predictors of changes in developmental task resolution, results must again be interpreted with caution due to intercorrelated SF-SQ scales. Changes in the insufficient self-control and failure schemas were related to an increased sense of safety and security and a more calm and optimistic attitude (positive resolution of the crisis of trust). Reduced fear that an imminent catastrophe will strike (vulnerability for harm schema) predicted improved resolutions of the developmental tasks of initiative and industry. Changes in the unrelenting standards, defectiveness and entitlement schemas (higher scores) were associated with higher identity scores. Less emotional inhibition predicted better functioning in close relationships (i.e., the developmental task of intimacy). Finally, a more positive resolution of the developmental task of integrity was specifically related to changes in the subjugation and abandonment schemas.

Although no causal inferences can be made, results of the analyses further confirm that EMS and the resolution developmental tasks are related and suggest that schema change contributes to better psychosocial functioning. These findings are encouraging, since the range of schema change scores in the present study possibly was restricted. According to Young (1999), EMS are stable unless treated. Preliminary research gives support to this assertion (Blissett & Farrow, 2007; Riso et al., 2006). However, not all patients in the sample received treatment between T1 and T2. In addition, EMS have not been specifically targeted in the treatments. Another limitation of the present study regards sample composition. The sample consisted mostly of patients with depression and anxiety disorders, and the generalization of the findings to other populations (e.g., psychiatric inpatients, forensic samples) is unclear. In addition, the presence of personality disorders in the sample has not been assessed systematically.

Other shortcomings of the present study include that three EMS from the current schema list (approval-seeking, negativity/pessimism and punitiveness) are not included in the SQ-SF. Another limitation of the present study arises from the use of a paper-and-pencil measure of EMS. EMS are, by definition, partly unconscious (Young, 1999) and the individual may not always be aware of having a particular EMS, e.g., an emotional deprivation schema (Young et al., 2003). In addition, maladaptive coping responses to a schema (e.g., schema avoidance) may influence the completion of a self-report inventory.

In conclusion, results of the current study are in accordance with Young's (1999) theory of schema development by showing meaningful relations between EMS and the developmental tasks an individual encounters in the lifespan, as described in Erikson's (1950) psychosocial model. Generally, EMS were, as expected, associated with negative resolutions of psychosocial developmental tasks. However, results also indicated that the self-sacrifice and entitlement schemas were partly positively related to particular developmental tasks. Finally, the present study demonstrated that changes in EMS predicted changes in psychosocial developmental task resolution.

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