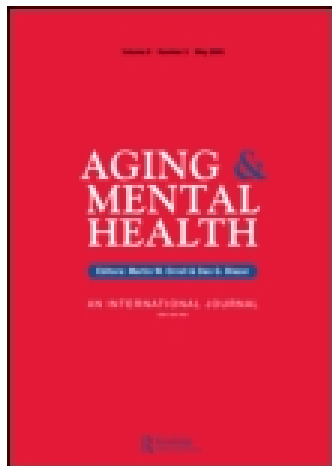


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### The development and initial validation of the narrative foreclosure scale

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## The development and initial validation of the narrative foreclosure scale

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**Objectives:** As people grow older, identity development in later life becomes a more and more relevant topic. Studying processes that hinder or promote identity development in later life is of importance. Within this broader field, there has been a growing interest in narrative foreclosure. Our goal was to develop a short, reliable and easy-to-use instrument measuring narrative foreclosure and to validate this instrument in two samples.

**Methods:** The narrative foreclosure scale (NFS) was validated in two studies with a sample of middle-aged adults ( $n = 319$ ) and a sample with older adults ( $n = 174$ ). Several analyses were conducted to assess the psychometric properties, the factor-structure and incremental validity of the scale.

**Results:** Confirmatory factor analyses generally showed an acceptable fit of the two-factor (NF-Future and NF-Past) model to the data in both samples. Both factors of the NFS demonstrated adequate to good internal consistency, with alpha coefficients ranging from .79 for NF-Past in study 2 to .88 for NF-Future in study 1. Construct validity was good as shown by moderate to large correlations to related constructs. The scale adds a unique portion of explained variance to positive mental health, thereby showing the incremental validity of the NFS.

**Conclusion:** A reliable scale is now available that allows to study the premature hindering of identity development in older populations. The use of the NFS as a process measure in studies on the effectiveness of interventions aiming at meaning making and identity development, such as life-review therapy and narrative therapy, is also recommended.

**Keywords:** mental health measures; positive psychology; quality of life/well-being

### Introduction

Ever since the seminal work of Erikson (1959) on identity development, there has been a growing interest in research on this topic. Marcia (1966) elaborated on Erikson's concept of identity crisis. He stated that two processes make up the identity formation in adolescence: exploration of and commitment to values, beliefs and goals. A lack of both exploration and commitment results in diffusion. Strong commitments without exploration result in foreclosure. Continued exploration without committing oneself, was defined as moratorium. Commitment to beliefs and values after a period of exploration has been defined as achievement. Later, Marcia (1980) underscored the dynamics of identity development during adulthood and later life. Identities must be both stable and flexible structures. Periods of moratorium and achievement may alternate throughout the life span. The confrontation with major life events and age-related changes may ask for new exploration in order to find new commitments. Within this dynamic perspective, Stephen, Fraser, and Marcia (1992) defined foreclosure as a form of regression that 'may result from a "stuckness" on the structure pole, and a refusal to enter another period of exploration although the present ego identity is outworn' (p. 296). The idea of balance between stability and change in identity processes has also been stressed in other identity theories. Whitbourne, Sneed, and Skultety (2002) defined balance in identity as the flexible use of assimilation (maintaining identity structure) and accommodation

(openness to change) of self-related information. 'Identity balance individuals are in the best position to age successfully because they can flexibly adapt and integrate age-related changes while simultaneously retaining a sense of inner consistency and stability' (p. 33).

Increasing attention paid to narrative perspectives within the human sciences has further heightened interest in identity development. Central in this perspective is the notion that our identities are in essence stories. As proposed by several scholars – Bruner (2002) and Polkinghorne (1988), to name but a few – *self* is a narrative process. It is 'not a static thing nor a substance', but 'a single unfolding and developing story' (Polkinghorne, 1988, p. 150). McAdams (1996, 2008) developed a life-story model of personality with three operating levels. Level 1 consists of decontextualized traits (e.g. the big five traits). Level 2 consists of characteristic adaptations (e.g. striving, life tasks, coping strategies). Level 3 consists of evolving and integrating contextualized life stories. At this level, there is a selfing process going on in which the I is constantly creating a Me. 'The process of selfing involves constructing and authoring experience as one's own, as well as appropriating, synthesizing, reflecting on and simply observing experience in such a way that it is deemed to be mine' (McAdams, 1996, p. 302). This selfing process gives coherence and unity to one's life and is storied by nature. And narrative identity 'remains a project to be worked on for much of the rest of the life course' (McAdams, 2008, p. 252). Certain characteristics of our

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life stories (e.g. openness, differentiation) allow these stories (i.e. our identity) to change over time. 'An open story propels the person into the future by holding open a number of different alternatives for future action and thought' (McAdams, 1996, p. 315).

If narrative openness is a prerequisite for development of identity in later life, the opposite would be true as well. Narrative foreclosure (NF) would imply that no development of identity would be possible anymore. Freeman (2000) defined NF as 'the premature conviction that one's life story has effectively ended' (p. 83). There is a sense of irrevocability: it is the 'unshakable conviction that it is simply too late to live meaningfully' (p. 83). According to Freeman, NF implies that one already knows the ending of one's life. No other alternative endings are considered as realistic. Necessarily, this shapes the story of one's past: 'there is little left to do but play out the pre-scripted ending' (p. 83).

NF has to be differentiated from closure. King, Scollon, Ramsey, and Williams (2000) defined closure as a form of resolution of a potentially traumatic event. In life stories, this can be found in statements expressing the ability to give positive meaning to a negative event. King et al. (2000) found that a sense of closure predicted well-being in parents of children with Down syndrome and in combination with accommodation was associated with stress-related growth. Butler (1963) discussed that closure could be the potential outcome of a process of life review. Life review is structured and evaluative reminiscence in which resolving conflicts and meaning making are central activities (Cappeliez, 2002). At the end of our lives, closure can be seen as the positive acceptance of how one's life has been and thereby resolving the last identity crisis humans have to face (Butler, 1963; Erikson, 1959). Empirical studies found positive relations of ego integrity as a measure of resolution of the past with well-being and meaning in life (James & Zaret, 2005; Van Hiel & Vansteenkiste, 2009; Webster, 2010).

Westerhof and Bohlmeijer (2012) developed a theoretical model in which narrative structures are linked to processes of narration. NF could be seen as the result of over-identification. Identity is seen as defined by a particular personal experience. In a similar vein, Brockmeier (2000) describes static narratives that are 'timeless'. These narratives 'tend to ignore or even deny the idea that life is a process that has a direction and sometimes even a precise goal' (p. 67). Similarly, Morson (1994) speaks of 'epilogue time' (p. 193). It implies that 'no present action could make any real difference' (p. 192) and that 'the important story is over, nothing essential will change' (p. 190). What Freeman refers to as NF, has also been described as arrested aging (McCullough, 1993). It is the phenomenon that 'time... has the power to arrest some lives, to bring them to a stop without death occurring' (p. 185). We then lose 'the ability to respond to time' (p. 186). The past becomes a prison that 'seems to allow no escape' (p. 91). Randall and McKim (2008) write that the arrested aging people are 'living in the past, rather than off the past' (p. 127).

In a theoretical review, Bohlmeijer, Westerhof, Randall, Tromp, and Kenyon (2011) defined NF as the conviction that no new experiences and commitments are possible that can substantially change the life story and the meaning of one's life as it is told now. NF extends to both future and past. The conviction that no new meaningful commitments can be made implies a fixated story about one's past. Interruptions of and irregularities in present stories are not noticed any longer and as such there is no possibility to receive 'gifts from the future', offered within narratives (Squire, 2012).

### *Study aim and hypotheses*

Despite its potential relevance as a barrier for identity development and meaning making in later life and reaching closure, the concept of NF has not been examined empirically. In the current study, a questionnaire measuring NF was developed (narrative foreclosure scale, NFS). We intended to develop a two-dimensional instrument that measures both NF toward the past (NF-Past) and toward the future (NF-Future). Our goal was to develop a short, reliable and easy-to-use instrument, to assess its reliability and to validate this instrument in two samples of middle-aged and older adults: one general sample and one sample with depressive symptoms. To assess the validity of the instrument, we developed several further hypotheses that relate to possible correlates, antecedents and consequences of NF.

With regard to correlates of NF, we assess the relations of the newly developed scale to ego integrity, hope, rumination and growth motivation. Erikson (1982) distinguished eight phases in his model of life-span development, each of which is characterized by a particular psychosocial issue. The last phase of life is characterized by the duality of ego integrity versus despair. Erikson described ego integrity as 'the acceptance of one's one and only life cycle as something that had to be' (1959, p. 268) and later as 'a sense of coherence and wholeness' (1982, p. 65). Ego integrity implies an open attitude toward one's past and seeing meaningful ways of living in the near future. So, moderate negative correlations with both NF-Past and NF-Future were predicted. At the same time, late life brings reasons for experiencing despair, such as aspects of the past that are difficult to integrate into a meaningful whole. Therefore, strong positive correlations between despair and NF-Past and no correlations between despair and NF-Future were predicted.

Hope is defined by Snyder et al. (1996) as being determined to achieve future goals as well as perceiving the pathways to do so. This self-regulatory process is thus important in managing one's goals across the life span. Hope does also extend to the past in the way that hope is built on achieving goals successfully in the past. Small to moderate negative correlations with both NF-Future and NF-Past were predicted.

Rumination has been defined as a behavioral and cognitive response to negative mood by focusing one's attention to the implications of negative mood in order to gain insight (Nolen-Hoeksema, 1991). Rumination comprises

two factors: brooding and reflection (Treyner, Gonzalez, & Nolen-Hoeksema, 2003). Brooding is related to anxious thinking about past negative situations in a self-critical way, e.g. ruminating about missed opportunities. Reflection is using contemplation in order to cope with current problems and difficulties and can be considered as a more adaptive way of dealing with problems. Therefore, we expect moderate to strong positive correlations of ruminations to NF-Past and no correlations to NF-Future. And we expect no or small negative correlations between rumination reflection and both NF-Past and NF-Future.

Growth motivation has been defined as the motivation to grow as a person. The focus is on developing aspects of one self (e.g. virtues or talents) that are deemed valuable. Growth motivation is oriented to the future and defining goals in relation to personal growth (Bauer & McAdams, 2004). Therefore, no correlations between growth motivation and NF-Past are expected and moderate correlations with NF-Future.

With regard to the antecedents, we expect that life contexts, personality traits and depression are related to NF. As people grow older, the time available for taking up new meaningful projects is objectively diminishing. As a consequence, people may also increasingly become subjectively convinced that it is too late to make new commitments. Therefore, moderate positive correlations between age and NF-Future were predicted and no or small correlation between age and NF-Past. Additionally, we expect a moderate negative relationship between subjective health and NF-Future as people with a poorer self-evaluated health may be convinced that no new experiences and commitments are possible due to their diminished health and no relationship between subjective health and NF-Past.

Besides life contexts, we also expect that some personality traits of the first level in McAdams' model of personality are related to NF. Neuroticism refers to an enduring tendency to experience negative emotions on the basis of an inclination to interpret situations as threatening. This makes it more difficult to cope effectively with ordinary and extraordinary life situations. As a consequence, there is a tendency to ruminate and to memorize negative events. We, therefore, predict strong positive correlations between neuroticism and NF-Past and no or small correlations between neuroticism and NF-Future. Openness to experience is associated with personal characteristics such as active imagination, preference for variety and intellectual curiosity. It involves the creative ability to see things from different perspectives and an openness to learn new things. The flexibility that is synonymous with this personality trait is likely to preclude NF that is associated with a rigid interpretation of one's life and an expectation that meaningful experiences will not happen anymore. A moderate negative correlation between NF-Future and openness to experience was predicted and no correlation between NF-Past and openness to experience was predicted. Research has shown that extraversion is associated with a preference for social interactions and a sensitivity to reward (Ashton, Lee, & Paunonen, 2002). Reward sensitivity has been defined as

'an incentive motivational state that facilitates and guides approach behavior to a goal' (Depue & Collins, 1999, p. 495). We, therefore, expect people with higher levels of extraversion to be more oriented toward social contacts and to future goals. Therefore, a moderate negative correlation between extraversion and NF-Future and no correlation between extraversion and NF-Past were expected. Growth motivation has been defined as a motivation to progress, explore, seek challenges, learn, integrate and more fully maximize one's potentials (Bauer et al., in press). Bauer et al. (in press) defined cognitive growth motivation as the motivation to explore identity and searching for meaning in life. Experiential growth was defined as the experience of personal growth and self-acceptance. As both forms of growth motivation are related to develop oneself, moderate correlations with NF-Future were expected and no correlations with NF-Past are expected.

Moderate positive correlations between depression and both NF-Past and NF-Future were predicted. Discontentment on the basis of a negative evaluation of how one's life has progressed is an essential component of NF. The conviction that one is not able to change life for the best will lead to feelings of despair, sadness and loss of interest.

As regards the consequences, we expected that NF is related to positive mental health. In a similar vein, negative relationships were predicted between both NF-Past and NF-Future and positive mental health and its components: emotional, psychological and social well-being.

Positive mental health is related to similar variables as the hypothesized antecedents of NF (Lamers, Westerhof, Kovacs, & Bohlmeijer, 2012; Westerhof, 2013). We expect that NF has incremental validity in multivariate analyses, i.e. NF adds to the explanation of positive mental health over and beyond those antecedents.

## Methods

### Item generation

The NFS was developed in a systematic procedure using both content analysis and psychometric analyses. As a first step, a pool of 65 items was generated by a group of researchers with expertise in narrative gerontology. The items were informed by reviewing of articles on NF and related topics. All items had statements assessing convictions about one's past (e.g. 'I did not do in my life, what I would have liked to do most') or one's future (e.g. 'it is too late to realize my dreams'). The instruction to the scale was 'To help you answer the next questions you can compare your life to a story, book, or movie. The story of your life contains a past, present, and future. You can be satisfied or less satisfied with this story'. Responses to these items were made on a 4-point Likert-type scale with ranges from *disagree completely* (1) to *agree completely* (4). A fifth option was 'don't know'. Fifteen older adults were then asked to think aloud while filling out the questionnaire in the presence of two master students in psychology. A total of 55 items were removed from the item

pool in four steps. In the first step, items were removed because they turned out hard to answer or ambiguous in the think-aloud procedure (15 items), because of many missing values (>10%; 3 items), or a small standard deviation ( $SD < .80$ ; 2 items). In the second step, 342 adult participants filled out the NFS. After principal component factor analysis, items were excluded because of low factor loadings ( $< .35$ ; 19 items). In the third step, after a discussion in the same group of experts, items were deleted because of ambiguity or content overlap with other items (10 items). In the fourth step, after a second principal component factor analysis and reliability analysis in the same sample, items were removed that did not compromise in the scale in terms of factor structures or reliability (six items). This led to the final scale with 10 items (5 items for NF-Future and 5 items for NF-Past) that will be discussed in the results section.

### Procedure

The NFS was studied in two different samples. The first sample was recruited by students attending a first-grade class on personality. The students invited two persons aged 40 years and older to participate in this study. The participants were asked to fill out the NFS. In addition, each participant completed several measures of psychological constructs that are predicted to be related to NF (see later). Participants handed over the questionnaire in a closed envelope to the student who brought them back to the University of Twente. The second sample was based on the baseline measurement of persons aged 40 years and older with mild to moderate depressive complaints that participated in a self-help life-review intervention. Participants were recruited through advertisements in Dutch newspapers and websites. Of the 274 participants who signed the informed consent form, 74 (27%) were excluded, because they did not fit the inclusion criteria (e.g. no depressive symptoms, a moderate to high suicide risk), and 26 (9.5%) were not available or decided not to participate. This resulted in a total sample of 174 participants. Each participant completed the NFS as well as several additional measures of psychological constructs in an online questionnaire.

### Sample characteristics

Table 1 presents the main description of the two samples. Respondents in the two samples were similar with regard to age, gender and educational level. The mean age varied between 57 and 63 years of age across the samples. In the first study, 178 middle-aged (40–64 years; 56%) and 141 older adults (65–95 years; 44%) participated. In the second study, 144 middle-aged (83%) and 30 older adults (17%) participated. About half of the participants in study 1 had lower depressive symptoms (Center of Epidemiological Studies - Depression Scale [CES-D] score on 10 item version below 6; 48%) or higher depressive symptoms (CES-D score on 10-item version of 6 or above; 52%). 95 participants (55%) in the second study had mild depressive symptoms (CES-D score on 20-item version of below 24) and

Table 1. Composition of the samples

	Study 1 N = 319		Study 2 N = 174	
	Mean	SD	Mean	SD
Background characteristics				
Age	63.33	14.58	56.94	9.11
	40–95		40–82	
Female	68%		77%	
Educational level (1–3)	1.83	0.85	2.21	0.76
Subjective health (1–10)	7.26	1.35	6.70	1.32
Depressive symptoms <sup>1</sup>	6.81	5.15	23.71	8.73
Positive mental health (1–6)	3.97	0.84	3.24	0.79
Narrative foreclosure				
Future (1–4)	1.95	0.82	1.81	0.62
Past (1–4)	1.97	0.61	2.72	0.62

<sup>1</sup>Study 1: CES-D 10-item version; Study 2: CES-D 20-item version.

79 participants (45%) had moderate depressive symptoms (CES-D score on 20-item version of 24 and higher). About two-thirds of both samples were female and had secondary or middle vocation education. As can be seen in Table 1, both subjective health and positive mental health were somewhat lower in the second sample. This can be explained by the presence of mild to moderate depressive symptomatology in the participants of this sample.

### Measures

**Demographics.** Participants were asked to fill out questions on age, gender and educational level.

**Personality traits.** The NEO-FFI is a 60-item instrument measuring five personality traits: neuroticism, extraversion, openness to experience, agreeableness and conscientiousness. Response options range from 1 (totally disagree) to 5 (totally agree). The Dutch version of the NEO-FFI has shown good psychometric properties (Hoekstra, Ormel, & Fruyt, 1996). For study 1, we included the 12 items on neuroticism (Cronbach's alpha .87), 12 items on openness to experience (Cronbach's alpha .74) and 12 items on extraversion (Cronbach's alpha .76).

**Depression.** Depression was measured with the 10-item (study 1; Cole, Rabin, Smith, & Kaufman, 2004) and 20-item (study 2; Radloff, 1977) versions of the CES-D. Cronbach's alpha was .84 in study 1 and .78 in study 2. Response options range from 1 (sometimes or never) to 4 (often or always). The Dutch version of the CES-D has shown good properties (Haringsma, Engels, Beekman, & Spinhoven, 2004; Radloff, 1977).

**Positive mental health.** The *Mental Health Continuum-Short Form* (MHC-SF) consists of 14 items which represent various theoretically derived feelings of well-being. Respondents rated the frequency of each feeling in the past month on a 6-point Likert scale (*never; once or twice a month; about once a week; two or three times a week; almost every day; every day*). We computed a mean score, with higher scores indicating better positive mental health. The Dutch version of the MHC-SF has shown good psychometric properties (Lamers, Glas, Westerhof, & Bohlmeijer, 2012; Lamers, Westerhof, Bohlmeijer, ten

Klooster, & Keyes, 2011). Cronbach's alpha was .88 in study 1 and .87 in study 2.

*Subjective health* was measured with one item: 'on a scale from 1 (very bad) to 10 (very well), how do assess your current health?'

*Ego integrity* was measured with the Northwestern Ego Integrity Scale (NEIS; Janis, Canak, Machado, Green, & McAdams, unpublished manuscript; Webster, 2010). This 15-item Likert-type scale was translated into Dutch and backward into English to obtain a Dutch version that is equivalent to the English one. The scree plot in an exploratory factor analysis suggested that the NEIS is a two-dimensional scale. We used nine items that loaded higher than .50 on one of the both dimensions in an exploratory factor analysis. Response options range from 1 (strongly disagree) to 6 (strongly agree). The internal consistency is satisfactory (Cronbach's alpha is .78 for ego integrity and .76 for despair in study 1 and .82 and .60 in study 2).

*Hope* was measured in study 1 with the Hope Scale (Snyder et al., 1996). This is a 12-item Likert-type scale with four items assessing pathways, four items assessing agency and four distracters. Response options range from 1 = definitely false to 8 = definitely true. For this study, the total composite score was used. The Dutch version of the Hope Scale has shown good psychological properties (Brouwer, Meijer, Weekers, & Baneke, 2008). Cronbach's alpha in study 1 is .83

*Rumination* was measured in study 2 with the Ruminative Response Scale (RRS). The scale includes 10 items describing responses to depressed mood focusing on self and symptoms and on possible causes and consequences of dysphoric mood. Each item is rated on a Likert scale ranging from 1 (almost never) to 4 (almost always). The scale has been found to have good psychometric properties (Roelofs, Muris, Huibers, Peeters, & Arntz, 2006). Internal consistency (Cronbach's alpha) in study 2 is .74 for reflection and .78 for brooding.

*Growth motivation* was measured in study 2 with the Motivation Growth Index (GMI) (Bauer et al., in press). The questionnaire comprises three subscales: cognitive growth motivation, experiential growth motivation and extrinsic motivation. For validation of the NFS, the first two subscales are relevant. Cognitive growth measures psychosocial maturity such as exploration of identity and searching for meaning in life. Experiential growth measures well-being such as satisfaction with life and self-acceptance. The GMI comprises 20 items focusing on the motivation for doing specific activities. The GMI asks participants to rate on 7-point Likert-type scale, how often they do particular activities for particular reasons (1 = never, 4 = periodically, 7 = always). Bauer et al. (in press) found good psychometric properties of the scale and good predictive validity. Internal consistency (Cronbach's alpha) in study 2 is .83 for cognitive growth motivation and .80 for experiential growth motivation.

### Analyses

In both studies, the first step was to conduct principal component analyses and reliability analyses on the 10

items of the NFS to get insight in potential loadings and cross-loadings of the items on the two factors. In the second step, confirmatory factor analyses (CFAs) were conducted in LISREL 8.70 to test the fit of the two-factor model to the data. We used several fit indices to assess the fit of the models. Values of  $<.08$  for the root mean square error of approximation (RMSEA),  $>.90$  for the comparative fit index (CFI),  $<.10$  for the standardized root mean square residual (SRMR) and  $>.90$  for the goodness-of-fit index (GFI) and adjusted goodness-of-fit index (AGFI) were considered as acceptable, and values of  $<.05$  for the RMSEA,  $>.97$  for the CFI,  $<.05$  for the SRMR and  $>.95$  for the GFI and AGFI were considered as a good fit to the data (Schermelele-Engel, Moosbrugger, & Müller, 2003).

In both studies, we performed correlational analyses to assess the relation of the NFS with the hypothesized antecedents and consequences. Furthermore, we did a three-step hierarchical regression analysis with the NF-Future and NF-Past dependent variables and the demographics, and subjective health and personality traits as independent variables. In the first step, we entered age, gender, education, subjective health and depressive symptoms, and in the second step, we added neuroticism, openness to experience and extraversion. We computed interaction effects in both studies, to assess whether age group (middle-aged versus older) acts as a moderator in the regression analyses. The interaction terms of age group with the other independent variables (i.e. age, gender, education, subjective health and depressive symptoms in both studies as well as personality traits in study 1) were entered together into the regression equation. In a similar way, we also assessed whether depressive symptoms (low – 5 or lower versus high – 6 or higher) act as a moderator in the regression analysis in study 1.

Finally, to assess the incremental validity of the NFS we carried out regression analyses with positive mental health as dependent variable. In study 1, in the first step the NFS was entered, followed by the demographics and subjective health (second step) and followed by personality traits (step 3). In study 2, this analysis was repeated without step 3.

## Results

### Factor structure and internal consistency

In principle component analyses, the two-factor model was explored in both studies (see Table 2). High loadings were found for all items on either the factor NF-Future or the factor NF-Past. Both factors of the NFS demonstrated adequate to good internal consistency, with alpha coefficients ranging from .79 for NF-Past in study 2 to .88 for NF-Future in study 1. The subscales had an intercorrelation of .26 ( $p < .001$ ) in study 1 and .25 ( $p < .001$ ) in study 2. Additionally, the two-factor model was confirmed by CFAs in both studies. In general, the fit indices showed an acceptable fit of the model to the data in study 1 ( $\chi^2(34) = 118.2$ ;  $p < .01$ ; RMSEA = .088; SRMR = .061; CFI = .96; AGFI = .89) as well as in study 2 ( $\chi^2(34) = 79.3$ ;  $p < .01$ ; RMSEA = .088; SRMR = .076; CFI = .95; AGFI = .86).

Table 2. Principal component analysis and reliability of the narrative foreclosure scale.

	Study 1		Study 2	
	Future	Past	Future	Past
(1) I expect that new chapters will be added to my life story.	-.86	.04	-.82	-.01
(2) It is too late to realize dreams.	.71	.20	.62	.29
(5) The story of my life is finished.	.88	-.01	.74	-.10
(6) When I think about my life, I do not see new possibilities for the future.	.89	.15	.75	.33
(8) I expect that new things can still happen in my life.	-.76	-.07	-.78	-.04
(3) If I could live my life again, I would do it completely different.	-.05	.76	-.01	.73
(4) I am satisfied about how my life has developed until now.	-.04	-.76	-.09	-.71
(7) I did not do in my life what I would have liked to do most.	.11	.75	.10	.68
(9) The story of my life contains many regrets.	.06	.74	.11	.75
(10) The expectations I had about my life have not been met.	.19	.70	.09	.80
Explained variance	34.41	28.14	29.04	28.13
Reliability (Cronbach's alpha)	.88	.80	.81	.79

### Validity of the NFS

Correlations between the two factors of the NFS and other psychological constructs are listed in Table 3. The Past and Future subscales were differentially related to the other constructs and correlations were generally in accordance with the predictions about their direction.

A large positive correlation between ego despair and NF-Past was found in studies 1 and 2. Ego integrity was moderately negatively associated with both the subscales of NF, but only in the sample of older adults with depressive symptomatology (study 2). A similar negative association was found for hope in study 1. In concordance with our hypothesis both aspects of rumination were positively correlated with NF-Past, the correlation being larger for brooding. In contrast, the different aspects of growth motivation were associated with NF-Future only.

With regard to the antecedents of NF moderate to large correlations of age and NF-Future were found, but no correlations of age and NF-Past. Small correlations of subjective health and both subscales of the NFS were found. Depressive symptoms had moderate relations to both subscales in both samples, although somewhat lower for NF-Future in sample 2. The three personality traits were related to NF as well, although somewhat differently to the past and the future. The correlations to antecedent variables tend to be somewhat stronger in study 1 than in study 2.

With regard to the consequences of NF, small to moderate negative correlations were found for positive mental health and its components in both studies for both NF-

Table 3. Cross-validation with correlates, antecedents and consequences.

	Study 1		Study 2	
	Future	Past	Future	Past
<b>Correlates</b>				
Ego despair	.17**	.66***	.01	.62***
Ego integrity	-.12*	-.10	-.30***	-.29***
Hope	-.33***	-.32***		
Rumination–reflection			-.07	.25***
Rumination–brooding			.14	.50***
Experiential growth motivation			-.37***	-.10
Cognitive growth motivation			-.31***	-.05
<b>Antecedents</b>				
Age	.67***	-.05	.35***	.01
Gender	-.06	.06	-.15	.07
Education	-.43***	-.09	-.11	-.28***
Subjective health	-.40***	-.28***	-.20**	-.12
Depressive problems <sup>1</sup>	.40***	.41***	.21**	.38***
Neuroticism	.28***	.45***		
Extraversion	-.37***	-.23***		
Openness	-.44***	.08		
<b>Consequences</b>				
Positive mental health	-.32***	-.29***	-.27***	-.35***
Emotional well-being	-.31***	-.37***	-.32***	-.41***
Social well-being	-.20***	-.17**	-.12	-.22**
Psychological well-being	-.32***	-.25***	-.26***	-.29***

\* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$ .

<sup>1</sup>Study 1: CES-D 10-item version; Study 2: CES-D 20 item version.

Future and NF-Past, the correlations being somewhat larger for emotional well-being than for psychological and social well-being.

### Regression analyses

Table 4 shows the results of regression analyses with NF as dependent and personal characteristics as independent variables. Age and depressive symptoms were significantly associated with NF-Future in both studies, and education and subjective health in study 1. These variables explained 52% (study 1) and 22% (study 2) of its variance. When controlling for demographics, subjective health and depressive symptoms, it was found that extraversion and openness were uniquely related to NF-Future in study 1. The personality traits explained 5% (study 1) on top of personal characteristics. None of the interactions of age group with the independent variables were significant in study 1 as well as study 2, showing that the same relations hold for middle-aged and older adults. In study 1, extraversion was strongly related to NF-Future in the higher depression group ( $\beta = -.23$ ;  $p < .001$ ) than in the lower depression group ( $\beta = -.05$ ;  $p = .449$ ). This interaction was significant ( $F_{1, 303} = 4.7$ ;  $p = .032$ ).

Table 4 also shows that age, subjective health and depressive symptoms in study 1 and education and depressive symptoms in study 2 were significantly associated with NF-Past, explaining 20% and 22% of the variance, respectively. When controlling for demographics,

Table 4. Personal characteristics and narrative foreclosure.

	Study 1		Study 2
	Model 1	Model 2	Model 1
	Beta	Beta	Beta
NF-Future			
Age	.53***	.48***	.38***
Gender	-.03	.00	-.13
Education	-.14**	-.09*	-.07
Subjective health	-.12**	-.11*	-.12
Depressive symptoms	.16***	.11*	.28***
Neuroticism		.02	
Extraversion		-.15***	
Openness		-.15***	
Adjusted $R^2$	.52	.57	.22
NF-Past			
Age	-.20***	-.16**	.05
Gender	.01	-.03	.02
Education	-.03	-.07	-.30***
Subjective health	-.14*	-.09	-.01
Depressive symptoms	.39***	.21**	-.41***
Neuroticism		.26***	
Extraversion		-.09	
Openness		.15*	
Adjusted $R^2$	.20	.26	.22

\* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$ .

subjective health and depressive symptoms, the coefficients for neuroticism and openness were significant in study 1. Personality traits added another 6% of explained variance in NF-Past in study 1. The interactions of age group with the independent variables were not significant in study 1 nor in study 2, showing that the same relations hold for middle-aged and older adults. This applies also for groups with lower versus higher depressive symptoms in study 1.

Finally, we examined the association of NF with positive mental health (see Table 5). In both studies, NF-Past and NF-Future explain about 15% of the variance in positive mental health. When demographics, subjective health and depressive symptoms (step 2) as well as personality traits (step 3) were entered, NF-Past remained significantly associated with positive mental health in study 1. In study 2, both NF-Past and NF-Future remained

Table 5. Narrative foreclosure and mental health.

	Study 1			Study 2	
	Model 1	Model 2	Model 3	Model 1	Model 2
	Beta	Beta	Beta	Beta	Beta
Future	-.28***	-.11	.04	-.19**	-.17*
Past	-.24***	-.16***	-.19***	-.30***	-.21**
Age		-.04	-.04		.04
Gender		.12	.06		.03
Education		.11*	.06		-.03
Subjective health		-.02	-.01		-.04
Depressive symptoms		-.28***	-.28***		-.30***
Neuroticism			.09		
Extraversion			.22***		
Openness			.23***		
Adjusted $R^2$	.15	.22	.29	.15	.20

\* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$ .

significantly associated with positive mental health after controlling for demographics and subjective health. In studies 1 and 2, the interactions between age group (middle-aged versus older) and both NFSs were insignificant as were the interactions between depression group (lower versus higher) and the NFSs in study 1.

## Discussion

The aim of this study was to develop a short instrument, the NFS, measuring NF toward the future and past and to examine the factor structure, reliability and validity of this instrument in different samples. Confirmation of the two subscales of NF-Past and NF-Future was found in a sample with people from the general population and in a sample with older adults with depressive symptomatology with all items loading largely on one factor and marginally on the other factor. CFA showed, in general, an acceptable fit of the two-factor model to the data in both samples underscoring the robustness of the NFS and its two factors.

The NFS invites people to see their lives as a story and to fill out questions about their past and future from the perspective of this life story. Identity development is an ongoing activity that extends into later life and as life narratives have been defined as the most personalized and contextualized aspects of identity (e.g. McAdams, 2008), narrative openness is a primary prerequisite for identity development. Narrative openness toward the past has been discussed as the capacity of hindsight (Freeman, 2011) and the ability of reading one's life (Randall & McKim, 2008). It is the ability of autobiographical reflection that enables one to learn from one's past and to see events of the past in different perspectives (Pasupathi, Weeks, & Rice, 2006; Staudinger, 2001). NF-Past is the exact opposite of narrative openness. A predominantly negative story of the past has become static and fixated, either by over-identification with some important life events (Westerhof & Bohlmeijer, 2012) or by concluding that one has failed to meet internalized moral standards and concepts of the good life (Freeman, 2000). In the NFS, the fixated negative story of one's life is expressed in items such as 'if I could live my life again, I would do it completely different' and 'the stories of my life contains many regrets'.

Additionally a sense of irrevocability is an important aspect of NF. One does not see any possibility to repair what has gone wrong in one's life until now. The present life story does not contain any openings, irregularities and imaginations that allow actions that may change the story for the better in the future (Squire, 2012). The subjectively experienced lack of possibility to renew one's story in a desired direction is expressed in items such as 'it is too late to realize dreams', 'the story of my life is finished' and in a reverse way 'I expect that new things can still happen in my life'.

Theoretically, higher NF-Past does not imply high NF-Future as one may have a negative story of one's past but still see possibilities for meaningful projects (Bohlmeijer et al., 2011). This was confirmed in our



studies by low correlations between NF-Past and NF-Future. The differential aspects of NF-Past and NF-Future were also confirmed in differential associations with related psychological constructs.

As predicted, NF-Past was highly associated with ego despair. NF-Past is characterized by problem-saturated life stories with a focus on missed opportunities and regrets which may result in the experience of having wasted one's life. In addition, we found a specific association between NF-Past and brooding as an aspect of rumination. This makes sense as over-identification with negative life events in the past that is a characteristic of NF-Past may also result in extensive thinking and worrying about this event, which is similar to a style of reminiscing that is called bitterness revival (Webster, 1993; Westerhof, Bohlmeijer, & Webster, 2010). Over and over again, the same, negative story is told and the impact of a life event on the life course of a person. On the other hand, we found that NF-Future is significantly associated with growth motivation whereas NF-Past is not. People with a strong motivation to grow as a person will be more focused on embarking on new activities that relate to personal and meaningful goals. Another differential finding is that NF-Future is strongly associated with age whereas the association between age and NF-Past is small or absent. The older one grows, the less objective time is available to embark on new projects and activities that would affect one's identity in a desired direction.

The construct validity was further corroborated by the correlations between the subscales of the NFS with positive mental health and depressive symptomatology. NF-Past and NF-Future were both moderately associated with depressive problems though the correlations were higher for NF-Past in the sample with depressive symptomatology. This is underscored by the finding that NF-Past is substantially larger in this sample than in the general population whereas the scores on NF-Future were similar in both samples. Apparently, depression is more strongly associated with narrative foreclosure toward the past than toward the future. The higher rumination scores may explain this results as rumination has consistently been found to be associated with depression. Additionally, NF-Past implies a sense of meaninglessness that has also been found to be related to depression (Westerhof, Bohlmeijer, van Beljouw, & Pot, 2010). Notably, even when older adults experience symptoms of depression, NF-Future is not substantially increased. One explanation may be that the participants in study 2 were only mildly depressed. One may hypothesize that in samples with severe depression positive expectations for the future are absent as well. Our findings suggest that higher levels of NF-Future differentiate between severe and mild depressions. Another explanation may be that the sample consisted of older adults who chose to participate in an intervention on life review. This could imply that they were still hopeful to change their lives in a meaningful direction.

Besides its relation to depressive symptoms, NF is also related to positive mental health, i.e. emotional, psychological and social well-being. The scale contributes to positive mental health, even when controlling for

demographic variables, subjective health and personality. Although narrative foreclosure is related to these variables, it adds a unique portion of explained variance to positive mental health, thereby showing the incremental validity of the NFS.

Overall, our findings show that, in both samples, age is the strongest correlate of NF-Future and depressive symptoms of NF-Past. The first may be related to a changing time perspective: with advancing age, the future is shrinking. Empirical studies have shown that older adults focus less on their future (Webster & Ma, 2013) and have more maintenance than growth goals (Timmer, Bode, & Dittmann-Kohli, 2003). A positive view of aging as continued growth is found to be related to well-being in mid-life and beyond (Steverink, Westerhof, Dittmann-Kohli, & Bode, 2001; Westerhof, Whitbourne, & Freeman, 2012). Studies have also found that the balance between flexible goal adjustment and tenacious goal pursuit is important for maintaining well-being in later life (Brandstädter & Rothermund, 2002). Intervention studies have shown that it is possible to promote proactive competencies in later life (Bode, de Ridder, Kuijer, & Bensing, 2007). Age has a small correlation with regard to NF-Past. This finding fits with previous findings that showed that age is not strongly related to ego integrity (e.g. Hannah, Domino, Figuerido, & Hendrickson, 1996). We found that NF-Past is related strongly to neuroticism as a personality trait as well as depressive symptoms as a more temporary state. Rather than age as such, it appears to be the general as well as the passing inclination to reflect in a negative way on one's past life. This finding fits previous research on reminiscence and well-being (Westerhof et al., 2012). Intervention studies on life review have shown that a re-appraisal of one's past life can contribute to less depressive symptoms and more well-being (Pinquart & Forstmeier, 2012).

### Limitations

The current study has some important limitations. The first limitation is that for study 1, a procedure of self-inclusion was used. Students attending a class on personality psychology were invited to participate and to ask middle-aged and older adults to participate. Study 2 included adults which responded to an advertisement to participate in a study on the effectiveness of a life-review intervention. These participants may be more willing to revise their life stories and to reduce their narrative foreclosure. In addition, two-thirds of the samples were female and in general participants had moderate to higher education levels. The results cannot be generalized to the general population. The findings tended to differ somewhat between the two samples. This may be due to the differences in recruitment strategies. The level of depressive symptoms does not appear to explain the differences. In fact, we found that the level of depressive symptoms did only moderate one finding in study 1: in people with lower levels of depression, extraversion was not related to NF-Future whereas it was in people with higher levels of depressive symptoms. All other findings in the regression

analysis apply to people with lower as well as higher levels of depression in the general population. The participants in study 2 not only had higher levels of depressive symptoms, but were also motivated to work on their depressive mood in a life-review intervention. Interestingly, no moderating effects were found in age group in both studies: the results in each study applied to middle-aged as well as older persons. The confirmation of the psychometric properties and factor structure in two different samples with a broad age range can be thus seen as a strength of this paper.

### Conclusion and recommendation

As people grow older, identity development in later life becomes a more and more relevant topic. Studying processes that hinder or promote identity development in later life is of importance. A scale is now available that allows to study the premature hindering of identity development in large populations. Narrative identity has mostly been studied within the context of life-story interviews. Comparing the outcomes of the NFS with qualitative analysis of life-story interviews with the same persons is recommended for further validation of the NFS. The use of the NFS as a process measure in studies on the effectiveness of interventions aiming at meaning making and identity development such as life-review therapy and narrative therapy is also recommended. These studies will shed light on the question whether narrative foreclosure can be affected.

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