

Rigidity of Attitudes and Behaviors: A Study on the Validity of the Concept

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ABSTRACT - The present study provides validity estimates of the concept of rigidity. More specifically, the authors address the question whether the theoretical concept of rigidity adequately represents everyday behavioral patterns. Using multitrait-multimethod analyses and confirmatory factor analyses with self-ratings and other-ratings, the authors empirically examine whether and to what extent rigidity is related to other personality constructs (personal need for structure, cognitive flexibility, openness to experience, conscientiousness). A correlated trait-correlated uniqueness model fitted the data most adequately. Rigidity demonstrates medium and large positive relationships with the concepts of conscientiousness and personal need for structure, respectively. Additionally, substantial negative relationships are found with cognitive flexibility and openness to experience. Given the present results, it is concluded that rigidity is represented in the present study by measures which demonstrate adequate validities, suggesting that the construct of rigidity amply represents everyday behavior.

Changing environments put forth important challenges for the individual actor. A behavior that is familiar to an individual and well-habituated in the individual's behavioral repertoire may be suitable for some specific circumstances, but not for others. If the environment changes in the sense that a deep-rooted and routinized behavior is suddenly not efficient enough to reach the expected goal, the actor needs to adapt to this new situation. In this context, the influence of interindividual differences in the rigidity of attitudes and behaviors has long been an object of interest in psychological research (see e.g., Cattell & Tiner, 1949; Chown, 1959; Kounin, 1941a, 1941b; Luchins & Luchins, 1959; Solomon, 1962; Werner, 1946). It seems that there was, however, a great inconsistency among researchers in how they should define rigidity (see Schaie, 1955; Stewin, 1983; Werner, 1946). Confusion existed, for example, between two views of rigidity: a functional view and a structural view. In the functional view of rigidity, rigid persons fail to variably adapt their behaviors and, therefore, are lethargic in the variation

of their responses (see Werner, 1946). In the structural view, rigidity is the result of a certain degree of independence of "mental regions" delimited by boundaries within the personality structure of an individual (Kounin, 1941a, 1948; see also Schaie, 1955). In other words, the greater the independence of one personality structure region from an adjacent region, the greater the rigidity of the individual person. In contrast, a person presenting less clearly delimited mental regions is not rigid (see Werner, 1946 for a critique). Cattell (1946) refers to rigidity as being synonymous to perseveration and, thus, considers rigidity from a structural point of view (Cattell & Tiner, 1949). However, it remains unclear whether Cattell and Tiner (1949) adopted the same Lewinian approach of the organization of personality as Kounin (1941a, 1948) did. As a consequence of the heterogeneity concerning the concept of rigidity, several authors pointed out the problem that different researchers refer to differing patterns of behavior as being rigid (see Cowen & Thompson, 1951; Werner, 1946). As a result, the almost complete disappearance of psychological rigidity from personality research at the present time is most likely based on the incoherence of a proper definition and the lack of existing methods to measure the construct (see O'Connor & Dyce, 2001). Indeed, no generally accepted definition of psychological rigidity seems to have emerged (see Schultz & Searleman, 2002; Tracey, 2005). Before suggesting how empirical analyses can help us to arrive at a more coherent view of rigidity, we first review some important works that have been concerned with the concept of rigidity amongst others.

Rigidity of Attitudes and Behaviors

In previous research, rigidity has been found to relate moderately to strongly (i.e., $r = .37$ to $r = .60$; $ps < .001$) to the concept of personal need for structure (PNS; Neuberg & Newsom, 1993). The construct of PNS is characterized by the desire for cognitive simplicity and the aim of restructuring the environment in a more manageable and simplified form (Neuberg & Newsom, 1993; see also Schaller, Boyd, Yohannes, & O'Brien, 1995; Schultz & Searleman, 2002). These findings suggest that rigidity in personal habits and attitudes is characterized by a ubiquitous need for (re-)structuring the environment in a more manageable way (Thompson, Naccarato, Parker, & Moskowitz, 2001). Rigid individuals tend to prefer routines and familiar situations and are resistant to conceptual change (Schaie, 1955) in their environment. Likewise, rigid individuals show an intolerance for ambiguous situations (Stewin, 1983) and are assumed to have a narrow cognitive structure. Although rigidity and PNS are related constructs, they should be considered as conceptually distinctive from each other (Schaller et al., 1995).

To overcome the aforementioned lack of consensus on a definition of the concept of rigidity, an exceptional attempt was made by Schultz and Searleman (2002) to regroup a restricted number of criteria characteristic for the concept of rigidity. According to them, a description of the construct of rigidity should contain the following key elements: (1) the formation of a behavioral or mental set, and (2) the perseveration of these sets, independently of external information stating that change is required or that the active set is no longer efficient. Accordingly, rigid individuals rely on established and familiar patterns of behavior which are not abandoned even if they are maladapted to the (new) situation (see Schaie, 1955). Consequently, rigid individuals demonstrate an inability to adjust their behaviors variably to the situational circumstances and are thought to resist

against the acquirement of new patterns of behavior (Cattell & Tiner, 1949). Presently, it is generally accepted that rigidity should not be considered as a one-dimensional construct with flexibility on the one extreme and rigidity on the other. Rigidity is to be considered as multidimensional in nature with perseverative behaviors in a multitude of personal habits, cognitive sets, and attitudinal sets (Schultz & Searleman, 2002; also Schaie, Dutta, & Willis, 1991). Schultz and Searleman (2002) attempted to give a comprehensive and extensive review on the issue that there does not seem to be a universally accepted way to measure rigidity. The ambiguity with respect to the concept of rigidity is further amplified by two opposing views in the literature (see, e.g., the review by Stewin, 1983). Some researchers conclude that a general rigidity trait exists whereas other researchers deny rigidity as representing an independent personality factor. Even until today, it remains somewhat unclear whether rigidity should be considered as a personality trait (Cowen & Thompson, 1951; Schmidt, Fonda, & Wesley, 1954; Tracey, 2005) or if rigidity is task or situation specific (Luchins & Luchins, 1959; see Stewin, 1983 for a discussion). Considering the relative inconsistency in previous work dealing with the concept of rigidity and its measurement, the question we would like to address deals with the extent that this (hypothetical) construct of rigidity actually represents a distinct and valid construct in reality. Before dealing with this question in detail, however, we would like to clarify exactly how empirical analyses can help us to arrive at a coherent view of the construct of rigidity. Firstly, because several different approaches exist to study rigid behaviors and attitudes (see Schultz & Searleman, 2002 for an overview), we feel that in order to arrive at a coherent image of rigidity, it may be advisable to limit the investigation to measures that have specifically been designed for the assessment of this construct. Therefore, we confine our investigation of rigidity to existing questionnaire measures and, by doing so, are implicitly advocating the view of rigidity as representing a situation-unspecific characteristic of the individual person (i.e., personality trait; see also Tracey, 2005). More specifically, the questionnaires used in the present study mainly focus on several different aspects of the rigid personality, such as an intolerance of ambiguity, opposition to change, and dogmatic/rigid attitudes. Consequently, in the context of the present study, we are neglecting approaches mainly concerned with cognitive or problem-solving tasks (e.g., Einstellung-like tasks by Luchins, 1951; Luchins & Luchins, 1959). Secondly, a construct may only be valid if it exists in reality. Indeed, inferences drawn from assessing personality traits by self-ratings should be carefully considered because problems inevitably related to this method may alter conclusions (for further specifications, see Funder, 1980; Hofstee, 1994; Kolar, Funder, & Colvin, 1996; McCrae, 1994; Nederhof, 1985). In dealing with the limitations of self-evaluations, it is proposed that the perspective of an observer improves the accuracy of the rating; moreover, judgments of acquaintances and knowledgeable others may provide a potentially more objective image of the respective constructs. We, therefore, do not limit the investigation of the concept of rigidity to self-evaluations but are interested if perceptions of the target's own personality coincide with the perceptions that surrounding people have of them. Thirdly, by using confirmatory factor analyses, particular factor models may be imposed by the researcher. In other words, we derive models a priori on the basis of theoretical considerations and then evaluate the fit to the

data. By this hypotheses-driven approach, specific predictions on relationships between rigidity and other personality variables can be made and tested.

The Present Study

Note that the aim of construct validation is unlikely to be achieved by one single study, but rather requires numerous studies dealing with group differences, factor and correlation studies with several other personality variables, and studies of change of occasions (see Cronbach & Meehl, 1955). Thus, construct validation is to be considered as a lengthy and never fully-completed process¹. Therefore, as an initial attempt of this process, the present study was designed with the aim (1) of establishing first estimates of validity of rigidity by means of self-ratings and other-ratings and (2) of evaluating the correlational patterns observed in the multitrait-multimethod (MTMM) matrix by confirmatory factor analyses (CFA). To the best of our knowledge, to date no other study has used an MTMM approach to examine the concept of rigidity. In the first step, a classical MTMM correlation matrix is presented to provide estimates of the construct validity of rigidity. Campbell and Fiske (1959) proposed four different criteria to evaluate an MTMM matrix (see also Schmitt & Stults, 1986 for a review), which will be closely followed during the inspection of the MTMM matrix. Although widely used, Campbell and Fiske's criteria and the interpretation of multitrait-multimethod matrices have been criticized in several aspects (Marsh & Hocevar, 1983; Schmitt & Stults, 1986). There exists a lack of specification as to what constitutes satisfactory results. In considering convergent and discriminant validities, the user is left alone to determine whether the proportion of failures, according to Campbell and Fiske's criteria, is acceptable or not. Additionally, interpretation of an MTMM can be misleading and ambiguous (Cole, 1987). The convergent variance of different traits measured by one method can be influenced by shared method variance which may artificially increase the observed validity coefficient. Furthermore, inferences about trait factors and method factors are exclusively based upon inspection of correlations between observed variables in the MTMM matrix (see Marsh & Hocevar, 1983 for a more extensive discussion on these issues). To deal with these shortcomings, we evaluated the relational patterns observed in the MTMM matrix while controlling for method-specific effects by means of CFA. We examined whether the concept of rigidity represents a valid and distinguishable concept in reality and how it is related to other concepts in personality. Several popular CFA models exist for analyzing MTMM data. In the present study, we will however only focus on one specific model type, namely, the correlated trait – correlated uniqueness model (CTCU)².

Expected Outcomes

We felt that personal need for structure, cognitive flexibility, openness to experience, and conscientiousness would be useful to provide first estimates of convergent and discriminant validity of the (hypothetical) construct of rigidity and to address the question whether rigidity represents a distinct construct. Note that previous applications of the PNS scale (Neuberg & Newsom, 1993; Thompson et al., 2001) found that the construct of personal need for structure is made up of two underlying factors, namely, Desire for Structure and Response to Lack of Structure. Desire for Structure represents the desire of

individuals to establish simple structures in their everyday lives, whereas the factor of Response to Lack of Structure represents the response of an individual to an encountered lack of structure. Conceptually, we (1) expect that rigidity and PNS should be very closely related to each other. As evidenced by previous research (see Neuberger & Newsom, 1993), rigidity and both factors of PNS seem to share the personal desire of individuals to reorganize their cognitive structure according to routines that are, per se, more familiar to them. By this restructuring, new situations are not approached by an adaptation of the behavior to the (new) environment; rather, rigid individuals persevere in their old cognitive and/or behavior schema (see Schultz & Searleman, 2002). To the best of our knowledge, systematic investigations of the relationships between rigidity and the three remaining constructs (i.e., cognitive flexibility, openness to experience, and conscientiousness) are lacking. According to the theoretical foundations of the three constructs, we however hypothesize that, (2) rigidity is largely and negatively related to cognitive flexibility. Cognitive flexibility as assessed in the present study is understood as representing an individual's ability to flexibly adapt to any situation, the personal awareness that one has options and alternatives available for any given situation, and the subjective belief of being flexible (see Martin & Rubin, 1995). Thus, this construct could be considered as representing, at least partly, the opposite pole of rigidity. Additionally, we hypothesize a strong and negative relation between Cognitive Flexibility and the PNS factor Response to Lack of Structure. Thus, low cognitive flexible individuals may be overwhelmed by situations that do not present clear and definite structures, because they may be unaware of any alternatives that they have in the given situation to flexibly adapt their behavior to the circumstances. Consequently, we feel that the relation between Cognitive Flexibility and the PNS factor Response to Lack of Structure should be greater in magnitude than the relation between Cognitive Flexibility and the PNS factor Desire for Structure. This is because the Desire for Structure factor represents the aim of having a clear and definite structure in the environment whereas the Response to Lack of Structure factor represents actions taken by the individual to deal with an encountered lack of structure in reality. (3) Openness to experience should also be negatively related to rigidity. Accordingly, negative correlations between personal need for structure and openness were found in the study of Neuberger and Newsom (1993), suggesting that the preference for cognitive simplicity is associated with closed-mindedness. We speculate that rigid individuals, characterized by their preference for familiar situations and routines, tend to be less open for new experiences. The Big Five dimension of conscientiousness is characterized by an important degree of self-control and the tendency to keep one's environment well organized (see Costa, McCrae, & Dye, 1991). Because this attribute could be regarded as characterizing rigid individuals as well, we are (4) expecting positive relationships between rigidity measures and conscientiousness. Predictions about the magnitudes of the relationships between rigidity and both Big Five dimensions are not given because empirical results on the relationship between rigidity, openness to experiences, and conscientiousness are relatively scarce.

Method

Participants

Self-ratings and other-ratings were obtained from a total of 204 dyads. For each single self-rating, one corresponding other-rating was obtained by a knowledgeable other (other-ratings). Participants of the self-raters group ranged in age from 18 to 76 years ($M = 34.1$, $SD = 13.4$ years). Participants of the other-raters group ranged in age from 18 to 74 years ($M = 34.4$, $SD = 13.2$ years). Gender was equally distributed with 45.6 % males and 54.4% females in each of the two groups. Other-raters were asked to indicate their relationship to the target person. In 65.7% of the cases, the self-rater and the other-rater were couples in a relationship living together, 20.6% family members, 12.7% friends, and 1% work colleagues. Additionally, other-raters were asked how long they have known the target person: 4.9% knew each other for less than 1 year, 9.8% knew each other for 1-2 years, 18.1% knew each other for 3-5 years, 6.9% knew each other for 6-9 years, and 60.3% knew each other for more than 10 years.

Instruments and Translation Procedure

Rigidity was assessed by three different measures: (1) The Rigidity of Attitudes regarding Personal Habits scale (RAP1; Meresko, Rubin, Shontz, & Morrow, 1954) is comprised of 20 items rated on 7-point Likert scales with response options ranging from 1 (strongly disagree) to 7 (strongly agree). This measure was originally constructed to evaluate opposition to change and the intolerance of ambiguity in persons (e.g., "The only way to make sure that things get done right is to set up a definite and fixed schedule and never depart from it"). (2) From the Test of Behavioral Rigidity (TBR; Schaie & Parham, 1975), only the 22 items assessing rigidity (with the response options 0 = false or 1 = true) were retained for the purpose of the present study (e.g., "It bothers me when something unexpected interrupts my daily routine"). (3) The Oesterreich Questionnaire of Rigidity (OE; Oesterreich, 1974), originally constructed on the basis of Gough and Sanford's (1952) rigidity scale, assesses dogmatic and rigid attitudes by means of 17 items (with the response options 0 = false or 1 = true; e.g., "Once my opinion is formed, I do not change it" [English translation by the author]³).

The concept of personal need for structure was assessed by the 12-item Personal Need for Structure scale (PNS; see Neuberg & Newsom, 1993), with ratings ranging from 1 (strongly disagree) to 6 (strongly agree). As mentioned above, previous research found that the scale measures two different subfactors of the same construct (Neuberg & Newsom, 1993; Thompson et al., 2001). First, the Desire for Structure (PNSF1) is captured by items 3, 4, 6, and 10 and assesses the desire of the participants to establish a simple structure in their everyday life (e.g., "I enjoy having a clear and structured mode of life"). The second subfactor, Response to Lack of Structure (PNSF2), captured by items 1, 2, 7, 8, 9, 11, and 12 may best be described to assess the manner in which people respond to a lack of structure in their environment (e.g., "I don't like situations that are uncertain"). According to Neuberg and Newsom (1993), item 5 ("I enjoy being spontaneous") was omitted from both of the two subfactors because of possible conceptual misinterpretations.

Cognitive flexibility was assessed by the 12-item Cognitive Flexibility Scale (COFL; Martin & Rubin, 1995). For this scale, a 6-point Likert scale was used (response options

ranging from 1 = strongly disagree to 6 = strongly agree; e.g., "I have many possible ways of behaving in any given situation").

Openness to experience and conscientiousness were assessed by the NEO Five Factor Inventory (FFI-O and FFI-C, respectively) by Costa and McCrae (1992). The NEO-FFI is an abbreviated version of the NEO-PI-R (NEO Personality Inventory, revised edition; Costa & McCrae, 1992) and is composed of 12 items per factor that are rated on 5-point Likert scales (with response options ranging from 1 = strongly disagree to 5 = strongly agree; e.g.: FFI-O "Sometimes when I am reading poetry or looking at works of art, I feel a chill or wave of excitement"; FFI-C "I work hard to accomplish my goals"). Note that each measure used here is scored in such a way that higher scores represent a greater degree of rigidity, personal need for structure, cognitive flexibility, openness, or conscientiousness, respectively.

The English versions of the RAPII, TBR, PNS, and COFL scales were translated into a French version. The OE scale was translated from its original German version to a French version. The NEO-FFI Openness and Conscientiousness scales (FFI-O & FFI-C) were available in French (Rolland, Parker, & Stumpf, 1998). The procedure of translating the respective original versions into French versions was conducted in several successive steps: (1) Each version was translated by a quadrilingual speaker (French, German, English, first language: Luxembourgish). (2) A small sample survey of 8 bilingual (English, first language: French) and quadrilingual researchers (French, German, English, first language: Luxembourgish) from the University of Luxembourg was conducted to control for possible ambiguous formulations of the respective items. (3) In the case of multiple syntaxes, the first author (quadrilingual — French, German, English, first language: Luxembourgish) decided on the final form of the translation. (4) This last version of the translation was then cross-corrected by a professional translator. The final French versions of the measures used in this study are presented in the appendix. For the translated self-rating questionnaires, internal consistency measures of Cronbach's alpha ranged from .69 (OE) to .81 (RAPH, FFI-C). The same items and scales were used for both self-ratings and other-ratings (structural parallelism; McCrae, 1994). The other-ratings differed from self-ratings in two aspects: (1) Other-raters were instructed to base their ratings on the personal experiences with and the impressions of the target person because we assumed that personality traits might not be adequately predicted by limiting the rating to single-act observations (see Funder, 1980). (2) Each single item starts with a reference to the other person as, for example, "The other person rather likes the idea of having friends drop in unexpectedly at odd hours" for other-ratings compared to "I rather like the idea of having friends drop in unexpectedly at odd hours" for self-ratings (see Hofstee, 1994). For the translated other-raters questionnaires, internal consistency measures of Cronbach's alpha ranged from .71 (FFI-O) to .88 (FFI-C).

Statistical Analyses

Complete sets of valid data from the measures of rigidity, personal need for structure, cognitive flexibility, openness to experience, and conscientiousness were available for 160 dyads (78.5%) of the total 204 dyads. Twenty-six cases (12.7%) were identified with one missing value. In total, 18 cases (8.8%) were identified with two to six missing values. The dispersion of missing values was at random.

To evaluate bivariate relations between the different questionnaires and both methods, zero-order Pearson correlations were computed and presented in an MTMM correlation matrix. Concerning CFA, the analyses reported here were performed with Mplus version 5.2 (Muthén & Muthén, 1998). Model identification was achieved by fixing the variances of latent factors to zero. Estimation of model parameters was performed by the maximum likelihood estimation technique implemented in Mplus. Missing data was handled by the full information maximum likelihood estimation method (e.g., Enders, 2001). Model fit was assessed by means of the chi-square (χ^2) goodness-of-fit statistic. Because this statistic is known to be highly sensitive to sample size, several other recommended descriptive measures of model fit were used: CMIN/DF, computed by dividing the chi-square score by the number of degrees of freedom in the model (i.e., χ^2/df), Bentler's comparative fit index (CFI), the root mean square error of approximation (RMSEA), and the standardized root mean square residual (SRMR). Although it seems difficult to designate specific cutoff values for each fit index, empirical examinations of various cutoff scores show that a value close to .95 for the CFI index, a value below .06 for the RMSEA, and a value below .08 for the SRMR index represent a good fit of the model to the data (Hu & Bentler, 1999). The CMIN/DF index is usually taken as a rule of thumb; models representing a good fit should show a value of CMIN/DF around 2.0 or lower (see Jöreskog, 1993).

Results

MTMM Matrix

The specific objective of the present study was to provide first estimates of the extent to which personal rigidity converges with and discriminates from other personality variables (i.e., personal need for structure, cognitive flexibility, openness to experience, and conscientiousness). For this purpose, we first present a classical MTMM correlation matrix (Table 1). To enhance the readability of the MTMM matrix, the two subfactors of the PNS scale discussed above (PNSF1: Desire for Structure and PNSF2: Response to Lack of Structure) are not considered separately from each other within the matrix; thus, in the context of Table 1, PNS will be considered as a unitary construct (see Neuberg & Newsom, 1993). Following Cohen (1992), we considered correlations of $r = .10$, $.30$, and $.50$ to represent small, medium, and large correlations, respectively. In the following, the MTMM matrix will be evaluated according to the four criteria proposed by Campbell and Fiske (1959).

According to Criterion 1, the validity diagonal should be significantly different from zero and large enough. In our data, the magnitude of correlations differed considerably between the scores. Each correlation in the validity diagonal was significant at $p < .05$ with correlations demonstrating a small to medium relationship between self-ratings and other-ratings (i.e., COFL with $r = .22$) to correlations demonstrating a large relationship between self-ratings and other-ratings (e.g., OE with $r = .51$). Campbell and Fiske (1959) state that values on the validity diagonal should be large enough to warrant further examination of the validity. This criterion has only been partly met by the present data.

Table 1
Descriptive Statistics and MTMM Correlations of the Seven Self-Rating and Other-Rating Questionnaires

	Self-ratings						Other-ratings											
	RAPH	TBR	OE	PNS	COFL	FFI-O	FFI-C	RAPH	TBR	OE	PNS	COFL	FFI-O	FFI-C				
Self-ratings																		
RAPH	<i>1</i>																	
TBR	.65	<i>1</i>																
OE	.60	.61	<i>1</i>															
PNS	.57	.65	.65	<i>1</i>														
COFL	-.13	-.13	-.18	-.21	<i>1</i>													
FFI-O	-.34	-.22	-.26	-.21	.35	<i>1</i>												
FFI-C	.33	.34	.28	.14	.30	.01	<i>1</i>											
Other-ratings																		
RAPH	.39	.41	.42	.36	-.02	-.25	.27	<i>1</i>										
TBR	.30	.36	.33	.28	.10	-.20	.24	.69	<i>1</i>									
OE	.43	.41	.51	.45	-.01	-.15	.34	.72	.73	<i>1</i>								
PNS	.28	.33	.40	.47	-.02	-.10	.23	.61	.62	.69	<i>1</i>							
COFL	-.32	-.17	-.25	-.23	.22	.14	.08	-.19	-.22	-.21	-.27	<i>1</i>						
FFI-O	-.32	-.22	-.22	-.06	.08	.52	-.10	-.28	-.24	-.28	-.20	.33	<i>1</i>					
FFI-C	.02	.12	.17	.09	.15	-.05	.53	.31	.32	.34	.39	.38	-.02	<i>1</i>				
Descriptives																		
M	80.83	11.05	7.69	42.39	53.31	40.70	42.68	84.18	11.43	8.74	43.57	53.12	39.05	44.32				
SD	16.12	3.95	3.24	9.92	6.76	6.26	6.54	16.83	4.33	3.45	10.48	6.70	6.63	8.16				

Note. Questionnaires: RAPH = Rigidity of Attitudes regarding Personal Habits scale; TBR = Test of Behavioral Rigidity scale; OE = Oesterreich Questionnaire of Rigidity scale; PNS = Personal Need for Structure scale; COFL = Cognitive Flexibility scale; FFI-O = Openness to Experience NEO-FFI scale; FFI-C = Conscientiousness NEO-FFI scale. M = Mean, SD = Standard Deviation. Convergent validity coefficients are the seven monotrait-heteromethod correlations presented in boldface type. Correlations presented in italics are nonsignificant at $p > .05$.

Criterion 2 was evaluated by comparing scores on the validity diagonal with scores in the heterotrait-heteromethod block. Criterion 2 expects scores on the validity diagonal to be higher than scores on the heterotrait-heteromethod block. When considering scores measuring rigidity (i.e., RAPH, TBR, OE), we observed that these values ranged from $r = .30$ to $r = .43$ ($M = .38$) in the heteromethod block, as compared to the correlations of the same scores ranging from $r = .36$ to $r = .51$ ($M = .42$) on the validity diagonal. In this case, the requirements of Criterion 2 have only been fulfilled for the OE score. When taking the validity diagonal of the remaining traits into account, correlations were all higher (with one exception, i.e., COFL) than correlations observed in the heterotrait triangles within the heteromethod block. Other-ratings differed quite considerably from self-ratings when knowledgeable others had to judge the cognitive flexibility of the respective examinees, whereas PNS, FFI-O, and FFI-C were more accurately rated by other-raters, with correlations ranging from $r = .47$ (PNS) to $r = .53$ (FFI-C). To fulfill Criterion 3, we expected that correlations between self-ratings and other-ratings of the same traits (i.e., validity diagonal) would be larger than correlations between different traits assessed by the same method (i.e., heterotrait-monomethod). The different rigidity measures and the PNS measure showed large relations between each other, thus confirming that preference for cognitive simplicity and clearly structured environments (i.e., PNS) is highly related to rigid attitudes and beliefs. In the self-rating block, correlations between PNS and the different rigidity scores ranged from $r = .57$ (RAPH) to $r = .65$ (TBR, OE). In the other-ratings block, correlations between PNS and rigidity ranged from $r = .61$ (RAPH) to $r = .69$ (OE). We observed that correlations represented on the validity diagonal between rigidity and PNS scores did not exceed the correlations between rigidity scores (RAPH, TBR, OE) and PNS scores in the monomethod block. For the remaining traits, we observed that values on the validity diagonal are larger (with

one exception, i.e., COFL) than correlations between different traits assessed by the same method (i.e., heterotrait-monomethod). Criterion 4 was investigated by comparing the overall pattern of relationships between different traits in the one heteromethod block and both monomethod blocks. When contrasting the two monomethod blocks to each other, a similar pattern of relationships between the different traits was observed. First of all, rigidity scores and PNS showed similar correlations in both monomethod blocks. Openness to experience (i.e., FFI-O) and cognitive flexibility (i.e., COFL) were negatively related to the rigidity scores and to PNS, whereas comparable positive correlations were observed between FFI-O and COFL on both monomethod blocks. COFL was, furthermore, positively correlated with conscientiousness (i.e., FFI-C). In sum, the pattern of results in the heteromethod block was comparable to the patterns in both monomethod blocks, even though the magnitudes of correlations differed considerably for certain scores (e.g., FFI-C, rigidity scores). Although the magnitudes of the present self-other agreements are in line with previous findings (McCrae, 1994), only marginal convergent validities of the respective scales were observed. Especially, some of the monomethod correlations were higher than their respective convergent validity coefficients indicating the prevalence of strong method effects (see Mitte & Kämpfe, 2008), thus making it rather difficult to conclude on a valid structure of rigidity (Marsh & Hocevar, 1983).

Correlated Trait Correlated Uniqueness Model

The CFA model was constructed to evaluate the correlational pattern observed in the MTMM matrix. Further, we investigated the extent to which the concept of rigidity could possibly represent a valid concept and how rigidity is related or unrelated to other concepts in personality. To simplify the presentation of parameter estimates for the CTCU model, Table 2 presents the correlations among latent factors. Additionally, correlated uniquenesses of the CTCU are presented. Table 3 presents the values of the standardized factor loadings.

Recall that the specificity of the CTCU model is that residuals are allowed to correlate with each other (correlated uniquenesses) because no separate method factors are introduced in this model. In the analysis of the present data, the model solution was proper in the sense of a convergence of the estimation procedure. No parameter estimate of the CTCU model, depicted in Figure 1, was out of range of admissible parameter estimates (e.g., negative variances) and the matrix of parameter estimates was positive definite. This finding strongly supports further investigation of the results. Although the χ^2 goodness-of-fit statistic was statistically significant, the fit of our CTCU model can be considered good because all descriptive measures of fit were either above (CFI) or below (CMIN/DF, RMSEA, and SRMR) recommended benchmark values [$\chi^2(36, N = 204) = 57.36, p < .05, \text{CMIN/DF} = 1.59, \text{CFI} = .986, \text{RMSEA} = .054$ with a 10% confidence interval ranging from .025 to .079, and $\text{SRMR} = .051$].

Table 2
Correlations Among Latent Factors and Correlated Uniquenesses of the CTCU Model

CTCU	Latent Factors					
	Rigidity	PNSF1	PNSF2	COFL	FFI-O	FFI-C
CTCU						
Rigidity	..					
PNSF1	.75	..				
PNSF2	.80	.79	..			
COFL	-.46	-.21	-.49	..		
FFI-O	-.44	-.10	.14	.27	..	
FFI-C	.42	.51	.18	.30	-.11	..

CTCU	Questionnaires							
	RAPH	TBR	OE	PNSF1	PNSF2	COFL	FFI-O	FFI-C
CTCU								
Uniquenesses								
Self-ratings								
RAPH	..							
TBR	-.46	..						
OE	.26	.35	..					
PNSF1	.51	.53	.25	..				
PNSF2	.26	.46	.39	.43	..			
COFL	.02	-.05	-.13	-.04	-.16	..		
FFI-O	-.19	-.06	-.11	-.22	-.30	.43	..	
FFI-C	.29	.29	.06	.06	-.16	.31	.16	..
Other-ratings								
RAPH	..							
TBR	.57	..						
OE	.54	.64	..					
PNSF1	.48	.48	.55	..				
PNSF2	.42	.53	.46	.56	..			
COFL	.03	-.14	-.06	-.01	-.17	..		
FFI-O	-.03	-.05	-.13	.06	-.19	.35	..	
FFI-C	.26	.26	.26	.50	.38	.45	.10	..

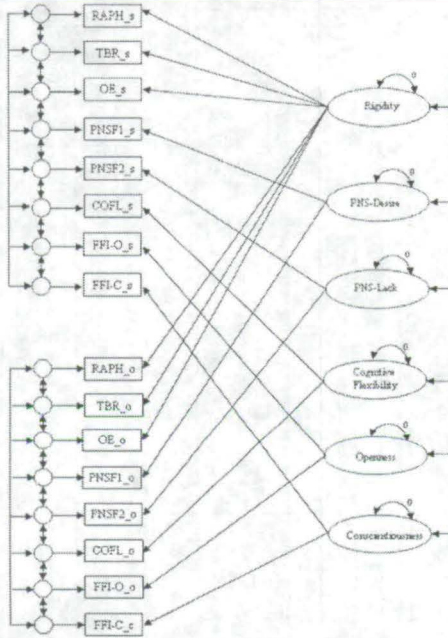
Note. CTCU = Correlated Trait Correlated Uniqueness Questionnaires. RAPH = Rigidity of Attitudes regarding Personal Habits scale, TBR = Test of Behavioral Rigidity scale, OE = Oesterreich Questionnaire of Rigidity scale, PNSF1 = Desire for Structure PNS-subscale, PNSF2 = Lack of Structure PNS-subscale, COFL = Cognitive Flexibility scale, FFI-O = Openness to Experience NEO-FFI scale, FFI-C = Conscientiousness NEO-FFI scale. Correlations presented in italics are nonsignificant at $p > .05$.

Table 3
Factor Loading Matrix of Self-Ratings and Other-Ratings on their Respective Scores in the CTCU Model

CTCU	Latent factors									
	R	PD			PL			CF	O	C
		RAPH	TBR	OE	PNSF1	PNSF2	COFL			
Self-ratings	.62	.56	.75	.76	.68	.49	.71	.73		
Other-ratings	.59	.45	.68	.64	.60	.52	.72	.71		

Note. CTCU = Correlated Trait Correlated Uniqueness. Latent factors: R = Rigidity, PD = PNS-Desire, PL = PNS-Lack, CF = Cognitive Flexibility, O = Openness, C = Conscientiousness. Questionnaires: RAPH = Rigidity of Attitudes regarding Personal Habits scale, TBR = Test of Behavioral Rigidity scale, OE = Oesterreich Questionnaire of Rigidity scale, PNSF1 = Desire for Structure PNS-subscale, PNSF2 = Lack of Structure PNS-subscale, COFL = Cognitive Flexibility scale, FFI-O = Openness to Experience NEO-FFI scale, FFI-C = Conscientiousness NEO-FFI scale. All factor loadings are significantly different from zero ($p < .05$).

Figure 1
 Correlated Trait Correlated Uniqueness (CTCU) model with the latent factors of Rigidity, PNS-Desire, PNS-Lack, Cognitive Flexibility, Openness, and Conscientiousness.



Note RAPH = Rigidity of Attitudes regarding Personal Habits scale, TBR = Test of Behavioral Rigidity scale, OE = Oesterreich Questionnaire of Rigidity scale, PNSF1 = Desire for Structure PNS-subscale, PNSF2 = Lack of Structure PNS-subscale, COFL = Cognitive Flexibility scale, FFI-O = Openness to Experience NEO-FFI scale, FFI-C = Conscientiousness NEO-FFI scale. Scales denoted with a small "s" refer to self-ratings, whereas scales denoted with a small "o" refer to other-ratings. See text for indices of fit, Table 2 for correlations among latent factors, and Table 3 for factor loadings.

Specifically, the factor of Rigidity (with λ = standardized factor loadings) was assessed by self-ratings on three different tests measuring rigidity of attitudes and behaviors (λ RAPH_s = .62; λ TBR_s = .56; λ OE_s = .75) and their corresponding other-ratings (λ RAPH_o = .59; λ TBR_o = .45; λ OE_o = .68). The latent factor PNS-Desire was assessed by self-ratings and other-ratings on the corresponding items 3, 4, 6, and 10 of the PNS scale (PNSF1). Standardized factor loadings were λ PNSF1_s = .76 for self-ratings and λ PNSF1_o = .64 for other-ratings. The latent factor PNS-Lack was assessed by self-ratings and other-ratings on items 1, 2, 7, 8, 9, 11, and 12 of the PNS scale (PNSF2). Standardized factor loadings were λ PNSF2_s = .68 for self-ratings and λ PNSF2_o = .60 for other-ratings. The latent factor of Cognitive Flexibility was assessed by the COFL scale, with λ COFL_s = .49 for self-ratings and λ COFL_o = .52 for other-

ratings. The latent factor of Openness was reflected by standardized factor loadings on the FFI-O scale with $\lambda_{\text{FFI-O}_s} = .71$ for self-ratings and $\lambda_{\text{FFI-O}_o} = .72$ for other-ratings. Finally, the latent factor of Conscientiousness was reflected by standardized factor loadings on the FFI-C scale with $\lambda_{\text{FFI-C}_s} = .73$ for self-ratings and $\lambda_{\text{FFI-C}_o} = .71$ for other-ratings (see Table 3 for the complete factor loading matrix). As can be observed for self-ratings, values of the standardized factor loadings of the different observed measures on the corresponding factors were moderate to high, ranging from $\lambda = .49$ to $\lambda = .76$ ($M\lambda = .66$). For the other-ratings, factor loadings of the different measures on the corresponding factors, ranging from $\lambda = .45$ to $\lambda = .72$ ($M\lambda = .62$), were almost all lower compared to factor loadings of the self-ratings, although still large enough to warrant further interpretation. However, and most importantly, all the latent factors seem to be accurately predicted by their corresponding self-ratings and other-ratings.

Concerning the interrelations among the latent factors of Rigidity, PNS-Desire, PNS-Lack, Cognitive Flexibility, Openness, and Conscientiousness, several findings are noteworthy. First, both PNS subfactors (i.e., PNS-Desire, PNS-Lack) and the factor of Rigidity were substantively correlated (Table 2), thus demonstrating strong convergent validities. Latent correlations ranged from $r = .75$ to $r = .80$, confirming the convergent validity observed in the monomethod blocks of the MTMM matrix (Table 1) between both PNS subfactors and Rigidity. Note, however, that correlations between PNS (as unique concept) and rigidity measures (i.e., RAPI, TBR, OE) in the heteromethod block of the MTMM matrix are considerably weaker compared to latent correlations observed in the CTCU model. Thus, after controlling for the influence of method-specific effects by correlated uniquenesses, PNS subfactors demonstrated strong convergent validities with the Rigidity factor. Second, consistent with our predictions (section Expected outcomes) negative relationships are observed between Rigidity and Openness ($r = -.44$) and between Rigidity and Cognitive Flexibility ($r = -.46$; see Table 2). When considering the concept of rigidity as being one-dimensional in nature, represented by flexibility on the one extreme and rigidity on the other, we would have expected a perfect (or at least a very strong) negative relationship between the latent factors of Cognitive Flexibility and Rigidity. As observed, this is clearly not the case (see Table 2). We, therefore, suggest that the concept of rigidity is not one-dimensional (Schultz & Searleman, 2002) but should be viewed as a construct which is made up of aspects represented in multiple different personality traits. Third, we observe a medium positive relationship ($r = .42$) between Rigidity and Conscientiousness. Fourth, as mentioned above, both PNS subfactors (i.e., PNS-Desire and PNS-Lack) related similarly to the Rigidity factor, but they differed considerably in their relations to the latent factors Cognitive Flexibility and Conscientiousness. We observed a small to medium correlation between PNS-Desire and Cognitive Flexibility ($r = -.21$), although the correlation between PNS-Lack and Cognitive Flexibility was substantially larger ($r = -.49$). Thus, it seems reasonable to consider both PNS subfactors separately from each other in future studies of personality (Neuberg & Newsom, 1993).

In sum, large convergent validities are observed between both PNS subfactors and Rigidity. Thus, the construct of personal need for structure and the construct of rigidity are highly related to each other, suggesting that Rigidity may not represent a distinct construct. Note however, that Rigidity, PNS-Desire, and PNS-Lack show rather differing

correlative patterns with the remaining personality variables (Table 2). This finding suggests that the latent factor of Rigidity captures something more than solely a personal need for structure.

Discussion

Up to present, it seems as if a considerable lack of research on the construct validity of rigidity exists. Note that construct validation is a long-lasting and never-ending process which cannot be achieved by one single well-designed study (see, e.g., Cronbach & Meehl, 1955). Our attempt with the present study was, therefore, to provide first estimates of the validity of the concept of psychological rigidity. This was achieved by means of three different measures assessing rigidity (i.e., RAPH, TBR, and OE) and measures assessing several other personality constructs. Specifically, we assessed rigidity and the other personality variables by two different methods, self-ratings and other-ratings. Both methods are considered as useful and valid ways for the assessment of personality (Funder, 1980; Hofstee, 1994; McCrae, 1994). The goal of providing first estimates of construct validity of rigidity was addressed in two subsequent steps - (1) by a classical MTMM correlation matrix (Campbell & Fiske, 1959) and (2) by CFA. In the first step, we failed to conclude on a concise and unambiguous construct of rigidity. This was possibly due to the prevalence of method effects and to incomplete reliabilities of our instruments (Cronbach's alpha ranged from .69 to .81 for self-ratings and from .71 to .88 for other-ratings). Nevertheless, correlative patterns between the measures for self-ratings and the measures for other-ratings were identical within the MTMM matrix, which represents one essential criterion for the validity of the investigated construct (see Campbell & Fiske, 1959). In a second step, we evaluated the relational patterns observed in the MTMM matrix by CFA while controlling for method-specific variance. The present CTCU model demonstrated accurate model fit statistics and can thus be interpreted as representing the present data most adequately. High and comparable factor loadings of self-ratings and other-ratings on the respective latent constructs (Table 3) demonstrate that the investigated constructs may be considered to exist in reality. Thus, rigid and simple structured perceptions that individuals have of themselves are shared by the people that surround them (e.g., Funder, 1980). More specifically, the CTCU model strongly supports the idea of rigidity representing a construct, demonstrating accurate validities with several other personality constructs. Recall that we expected (1) large positive correlations between Rigidity and both PNS subfactors, (2) large and negative relationships between Rigidity and Cognitive Flexibility and between PNS-Lack and Cognitive Flexibility, (3) negative relationships between Rigidity and Openness, and (4) a positive relationship between Rigidity and Conscientiousness. Concerning our first assumption, we found that rigidity and both PNS subfactors share a great amount of variance. Essentially, this was mainly demonstrated by a large convergent relationship between the latent Rigidity factor and both latent PNS subfactors. Concerning this finding, it could be argued that this large convergence represents evidence against the construct validity of Rigidity as a distinct construct. Specifically, our correlations between Rigidity, PNS-Desire, and PNS-Lack are all situated around .80. Note however, that the magnitudes of the correlations between Rigidity and the remaining constructs differ considerably from correlations of PNS subfactors with Cognitive Flexibility,

Openness, and Conscientiousness (see Table 2). Concerning our second assumption, medium to large correlations are observed between Rigidity and Cognitive Flexibility, whereas both PNS subfactors differentially relate to Cognitive Flexibility, with PNS-Lack demonstrating a substantively larger relationship with Cognitive Flexibility than PNS-Desire. Our third assumption was confirmed by medium to large negative relations between Rigidity and Openness, whereas both PNS subfactors only show small and nonsignificant correlations with Openness. Finally, medium to large convergent validities were found between Rigidity and Conscientiousness, whereas PNS-Desire strongly relates to Conscientiousness. In sum, these observed relationships between the latent factor of Rigidity and the remaining personality variables largely support our assumptions. Given these results, we may conclude that the factor of Rigidity is represented by measures which demonstrate adequate validities, suggesting that this construct may indeed satisfactorily represent everyday behavioral patterns.

Considering this conclusion, the question may be raised of how to characterize rigid individuals. From the present findings, we may characterize rigid individuals as being less flexible in their attitudes, thus, remaining more attached to their prefabricated and habitual ideas, views, and behaviors. Rigid people seem to be rather close-minded; consequently, they are less open to new experiences, as demonstrated by medium to large negative correlations with the latent factor of Openness. On the other hand, flexible individuals appeared to be relatively insensitive to situations in which they are confronted to a loss of structure. It can be speculated that cognitive flexible individuals are characterized by their capability of having different behavioral options available for the different situations in which they may find themselves. Thus, this self-perception may lead to an increased self-confidence in one's own ability to conquer any situation one is confronted with. Returning to rigidity, our findings suggest, however, that rigidity is not solely characterized by decreased flexibility in an individual's behaviors and views. Rigid individuals show an important desire for restructuring their environments into more manageable forms with the aim of reducing their cognitive load, as demonstrated by large relationships between Rigidity and both PNS subfactors. By this, simplified, well-defined, and homogeneous cognitive structures allow the individual to rely on a clear and clean interpretation of new situations (Neuberg & Newsom, 1993). Thompson et al. (2001) report in their study a certain degree of redundancy between the RAPH scale and the PNS scale. In respect to our findings, however, we argue that the investigation of rigidity in personal habits and attitudes allows a further and clearer differentiation between individuals, as was demonstrated by the latent correlations of Rigidity with Cognitive Flexibility, Openness, and Conscientiousness and by latent correlations of both PNS subfactors with Cognitive Flexibility, Openness, and Conscientiousness (Table 2). From these latent correlations we conclude that clear-mindedness and a preference for unambiguous and definite environments are characteristic for rigid individuals (see also Thompson et al., 2001). Note that the methodology of the present study does not allow one to deduce causal relationships between Rigidity, Personal Need for Structure, Cognitive Flexibility, Openness, and Conscientiousness. It can, however, be speculated that individuals characterized by a high degree of rigidity in their attitudes and habits might be less efficient in approaching a situation from different angles and, therefore, demonstrate an intolerance of ambiguity (Stewin, 1983). Consequently, the incapability

to flexibly adapt their behavioral and attitudinal patterns to new situations may lead rigid individuals to experience discomfort. More specifically, when confronted with new situational demands, individuals perceive a certain lack of structure because this new situation is identified as unfamiliar and threatening. Rigid individuals seem then to respond to this lack of structure and the associated threat by a preference for familiar, well-known environments and persevere in old, established habits and behavioral patterns. A consequence of this perseveration is a failure to adapt to the new situation (Schultz & Searleman, 2002). This conclusion is supported by the large positive relationships found between Rigidity and the factor of PNS-Lack and the medium to large negative relationships found between Cognitive Flexibility and Rigidity. Further, we found that the factor of Rigidity is moderately related to the factor of Conscientiousness. Concerning this relation, we may speculate that the common aspect between Rigidity and Conscientiousness is the need for order and the important degree of self-control usually attributable to both personality constructs. The aspect of order and structure, representing the tendency to keep one's environment well organized, plays a crucial role in Conscientiousness (Costa et al., 1991), as represented by a medium to large correlation with a desire for structure (i.e., PNS-Desire) in the CTCU model. Note that previous research suggests that this aspect of increased order and self-control in conscious individuals diminishes accurate decision-making processes (Le Pine, Colquitt, & Erez, 2000). In turn, the increased self-control in rigid individuals may also have a negative influence on the adaptability of rigid individuals to new situational demands.

The present empirical findings support the view of rigidity as representing a situation-unspecific trait of the individual person, existing in reality. The study was, however, limited to the use of rigidity questionnaires assessing rigid attitudes, rigid behaviors, and rigid views in everyday life. There are other approaches to study the concept of rigidity from an action-oriented point of view as, for example, Schaie's multidimensional approach (Schaie, 1955; Schaie & Parham, 1975), or Luchins' Einstellung-like tests (Luchins, 1951; Luchins & Luchins, 1959). Thus, an interesting research question would be to clarify if psychological trait-rigidity has a mediating effect on problem-solving and action-oriented tasks of rigidity.

Footnotes

1. We would like to thank an anonymous reviewer for pointing us to this argument.
2. Another CFA model type (correlated trait – correlated method minus one [CTC(M-1)]; see Eid, 2000; Eid et al., 2003) was tested. For the sake of brevity, however, we will only focus on the CTCU model because this model type fitted the data most adequately. Analyses concerning the CTC(M-1) model are available from the first author upon request.
3. In the original German version of the Oesterreich Questionnaire of Rigidity (Oesterreich, 1974), the item response format is trichotomous (0 = *false*, 1 = *true*, or ? = *don't know*). In one previous unpublished application of our French version of the Oesterreich Questionnaire of Rigidity (OE), the third item response option “?” was scored as a missing response, because we assumed that a “?” response does not offer us any further information that helps in differentiating rigid from nonrigid participants. However, utilizing this strategy led to a considerable amount of missing data. We,

therefore, decided to impose a dichotomous forced-choice response format in the French translation of the scale (0 = *false* and 1 = *true*) avoiding problems related to the treatment of missing data.

4. Note that, hereafter, the different measures will be referenced with a small "s" to designate self-ratings (e.g., RAPH_s for self-ratings on the RAPH scale) and with a small "o" to designate other-ratings (e.g., RAPH_o for other-ratings on the RAPH scale). Note also that, hereafter, latent factors will be referenced with an upper case first letter (e.g., Rigidity as the latent factor) and constructs or measures will be referenced with a lower case first letter (e.g., rigidity as a construct or as a measure).

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Appendix

French versions of the RAPH scale (Meresko et al., 1954), the TBR (K. W. Schaie & Parham, 1975), the OE scale (Oesterreich, 1974), the PNS scale (see Neuberg & Newsom, 1993), and the COFL scale (Martin & R. Rubin, 1995).

For the purpose of our study, one general instruction was given on the first page of the document containing the different scales.

Instruction:

Lisez attentivement ces instructions avant de commencer. Ce document contient 7 questionnaires avec des questions ou des affirmations. Lisez chaque question/affirmation attentivement et choisissez la réponse qui vous correspond le plus.

Il n'y a pas de bonnes ou de mauvaises réponses.

Comme la première réponse qui vous vient à l'esprit est probablement la meilleure indication de votre opinion, essayez de répondre le plus rapidement possible et ne modifiez votre réponse qu'en cas de mauvaise compréhension. Toutes ces expressions tournent autour de différentes opinions que les gens peuvent avoir. La meilleure réponse est votre propre opinion et vous n'avez pas besoin d'avoir une compétence particulière pour remplir ce questionnaire. Le but de ce questionnaire sera atteint si vous vous décrivez vous-même et si vous exprimez vos opinions aussi exactement que possible. Assurez-vous que vous ayez répondu à toutes les affirmations même si parfois vous devez deviner.

Faites de votre mieux pour répondre à toutes les questions. Si vous hésitez, donnez la réponse qui vous correspond le mieux ou qui vous correspond la plupart du temps. Rappelez-vous qu'il n'y a pas de bonnes ou de mauvaises réponses, car votre propre opinion est la bonne réponse.

Rigidity of Attitudes regarding Personal Habits (RAPH scale)	
1 - Fortement en désaccord 2 - Désaccord 3 - Légèrement en désaccord	4 - Neutre 5 - Légèrement d'accord 6 - D'accord 7 - Fortement d'accord
1. J'aime plutôt l'idée d'avoir des copains qui passent à l'improviste à des heures inhabituelles. * 2. Je n'aime pas faire les choses sur un coup de tête. 3. Je n'aime pas trop les peintures qui ne racontent pas d'histoire ou qui ne représentent pas clairement ou de manière non ambiguë un objet. 4. Il n'existe que peu de choses qui soient plus énervant qu'un changement soudain de plans. 5. Une personne qui se respecte ne devrait jamais se permettre de relâcher sa vigilance concernant ses habitudes personnelles ; apparemment le moindre lapsus peut facilement engendrer un effondrement total de l'autodiscipline. 6. Dans tout ce que l'on fait, les vraies expériences sont toujours les meilleures. 7. Je ne commence jamais une chose que je ne peux pas finir. 8. Il est préférable d'avoir un fort point de vue des choses parce que cela facilite la décision de ce qui est vrai ou faux. 9. Les règles de la logique sont les règles de la vie. 10. Si j'avais une nouvelle voiture, je la maintiendrais toujours nettoyée et cirée. 11. « Une place pour tout et tout à sa place » est une très bonne philosophie de vie. 12. La meilleure façon de jour des vacances est de planifier minutieusement chaque détail avant de partir. 13. Une fois qu'une personne dépasse son budget, même s'il s'agit de petits montants, elle va droit vers des problèmes financiers. 14. J'aime plutôt l'idée de prendre mes repas à des heures inhabituelles et de me coucher lorsque cela me chante. * 15. Un des objectifs majeurs de l'éducation devrait être de nous donner quelques règles simples de comportement, applicables dans toutes les situations. 16. Le plus grand avantage de l'homme par rapport aux animaux inférieurs est sa capacité à se réguler lui-même et à vivre selon des règles de conduite définies et invariables. 17. Habituellement, on peut compter sur une personne qui change rarement d'avis pour avoir des jugements solides et fiables concernant des sujets importants. 18. Une fois qu'une personne a pris une décision pour quelque chose, elle devrait s'y tenir au lieu de se poser continuellement des questions. 19. Chaque personne devrait suivre quelques bonnes règles de conduite invariables ; de cette manière, on ne peut jamais se tromper. 20. La seule façon de s'assurer que les choses seront bien faites est de mettre en place un plan défini et fixe et de ne jamais en dévier.	

Test of Behavioral Rigidity (TBR scale)
Si vous pensez que l'affirmation ou le sentiment décrit vous correspond, cochez la case VRAI (V) Si vous pensez que l'affirmation ou le sentiment décrit ne vous correspond pas, cochez la case FAUX (F)
1. Je n'émetts jamais un jugement sur quelqu'un avant d'être sûr des faits. 2. Je suis pour une stricte application des lois, quelles qu'en soient les conséquences. 3. Cela m'irrite lorsque quelque chose d'inattendu interrompt ma routine quotidienne. 4. Les personnes qui manquent d'assurance et qui semblent incertaines me mettent mal à l'aise. 5. Je pense être plus strict envers ce qui est juste et faux que la plupart des gens. 6. J'aime toujours veiller à ce que mon travail soit minutieusement planifié et organisé.

7. Une forte personnalité peut être capable d'adapter ses pensées même pour les questions les plus difficiles
8. Je souhaite que les gens soient plus précis sur les choses
9. Je n'aime pas travailler sur un problème à moins d'avoir une possibilité de trouver une réponse précise et simple
10. Pour la plupart des questions, il n'existe qu'une seule réponse correcte, une fois qu'il est possible de connaître tous les faits
11. L'ennui avec beaucoup de personnes, c'est qu'elles ne prennent pas les choses assez au sérieux
12. Je commence souvent des choses sans jamais les terminer
13. Je place la barre très haute pour moi-même et je pense que les autres devraient en faire autant
14. La plupart des discussions ou disputes que je mène concernent des sujets de principes.
15. Je n'aime pas les choses incertaines et imprévisibles
16. Il est ennuyant d'écouter un orateur qui ne semble pas pouvoir se décider en ce qu'il croit vraiment
17. Une fois que j'ai pris une décision, je change rarement d'avis
18. Nos réflexions seraient beaucoup plus simples si on oubliait simplement des termes comme « probablement », « à peu près » et « peut-être »
19. J'aime avoir une place pour chaque chose et que chaque chose soit à sa place
20. Je suis connu comme étant une personne qui travaille dur et de façon régulière
21. Je pense qu'une manière de vivre bien ordonnée, avec des horaires réguliers et une routine établie convient le mieux à mon tempérament
22. Il est difficile pour moi de sympathiser avec une personne qui doute constamment et qui n'est pas sûre des choses

Oesterreich Questionnaire of Rigidity (OE scale)

Si vous pensez que l'affirmation ou le sentiment décrit vous correspond, cochez la case OUI (O)

Si vous pensez que l'affirmation ou le sentiment décrit ne vous correspond pas, cocher la case NON (N)

1. Je pense qu'il vaut toujours mieux agir selon les bons usages
2. Je m'habille toujours très soigneusement
3. Je trouve très embarrassant quand des visiteurs passent à l'improviste
4. Une fois que mon opinion est faite, je n'en change pas
5. En sortant de chez moi, je vérifie régulièrement si j'ai bien éteint le four ou les lumières.
6. Je n'aime pas le changement, car je m'attache fortement à mes habitudes
7. Tout ce que je fais est planifié
8. On devrait de temps à autre abandonner ses habitudes et faire quelque chose de complètement nouveau *
9. En m'habillant, je procède toujours exactement dans le même ordre
10. Je trouve que ma façon d'aborder les choses est d'habitude la meilleure, même si au début cela n'en a parfois pas l'air
11. Les situations nouvelles et inhabituelles me sont désagréables
12. Cela m'importe peu, si mon domicile est rangé ou non *
13. De temps à autre, je fais quelque chose de dangereux, juste pour le plaisir. *
14. J'agis selon le principe Mieux vaut prévenir que guérir.
15. Quand je commence quelque chose je le termine
16. Il m'arrive malheureusement de ne pas être ponctuel *
17. Dans l'avenir, je souhaite avoir une vie aussi calme que possible

Personal Need for Structure (PNS scale)

1 - Fortement en désaccord

2 - Modérément en désaccord

3 - Légèrement en désaccord

4 - Légèrement d'accord

5 - Modérément d'accord

6 - Fortement d'accord

1. Ça me contrarie de me lancer dans une situation dont je ne sais pas ce que je peux en attendre
2. Je ne suis pas gêné par des choses qui interrompent ma routine quotidienne. *
3. J'aime avoir un mode de vie clair et bien structuré.
4. J'aime bien avoir une place pour chaque chose et avoir chaque chose à sa place

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|---|
| 5 J'aime bien être spontané * |
| 6 Une vie ordonnée avec des horaires réguliers rend ma vie ennuyeuse * |
| 7 Je n'aime pas les situations incertaines |
| 8 Je déteste changer mes plans à la dernière minute |
| 9 Je déteste être avec des gens qui sont imprévisibles |
| 10 Des habitudes cohérentes me permettent d'apprécier davantage la vie |
| 11 J'aime bien l'euphorie de me retrouver dans des situations imprévisibles * |
| 12 Je me sens mal à l'aise dans une situation où les règles ne sont pas claires |

Cognitive Flexibility (COFL scale)

- | | |
|-----------------------------|-------------------------|
| 1 = Fortement en désaccord | 4 = Légèrement d'accord |
| 2 = En désaccord | 5 = D'accord |
| 3 = Légèrement en désaccord | 6 = Fortement d'accord |

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|---|
| 1. Je sais communiquer une idée de beaucoup de manières différentes |
| 2. J'évite les situations nouvelles et inhabituelles. * |
| 3. J'ai le sentiment de ne jamais avoir l'occasion de prendre de décision * |
| 4. Je peux trouver des solutions réalisables à des problèmes apparemment insolubles |
| 5. J'ai rarement le choix de mon comportement * |
| 6. Je suis prêt à travailler à la résolution créative des problèmes |
| 7. Je sais me comporter de façon appropriée dans toutes les situations |
| 8. Mon comportement est le résultat de mes décisions conscientes |
| 9. Je dispose d'une panoplie de comportements pour toutes les situations |
| 10. Dans la vie courante, j'ai des difficultés à utiliser mes connaissances dans un domaine déterminé * |
| 11. Je suis prêt à écouter et à considérer des alternatives pour résoudre un problème |
| 12. J'ai suffisamment confiance en moi pour essayer différents types de comportements |

*Note. Corresponding other-rating scales can be obtained from the first author. * Item is reverse scored.*