Fear Attachment as a Predictor for Mental Inflexibility. Hypothesis on Neural Bases

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ABSTRACT
Attachment model formed in childhood has an important impact on emotional development, personality, and social relationships according to the theory of attachment. Attachment is thought to have an impact on the construction of the affective-cognitive schemas. Taking this data into consideration, the aim of the current study was to verify whether attachment may be a predictor for mental inflexibility – flexibility which is defined here as personality dispositions like intolerance of ambiguity, need for closure and dogmatism. The analysis was of 180 participants (persons of a similar age and education level, number of men and women was equal). The attachment styles were tested with the Plopa’s Attachment Styles Questionnaire and the Revised Experiences in Close Relationships Inventory (ECR-R – Fraley et al.). To examine mental rigidity three scales of flexibility were used: by Budner, Rokeach, and Kruglanski. A multiple regression model and a factor analysis were employed to test whether attachment styles are associated with aspects of mental inflexibility. The current findings provide support for fearful attachment as being the main predictor for dogmatism as an aspect of mental inflexibility. Furthermore, the factor analysis revealed that different aspects of inflexibility such as a need for closure, dogmatism, and tolerance of ambiguity are partly independent.

Key Words: Fearful Attachment, Insecure Attachment, Need for Closure, Intolerance of Ambiguity, Dogmatism

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Introduction
Attachment theory is a theory of human social-emotional development (Bowlby, 1982, 1988). The main hypotheses, which have been studied thoroughly, include assumptions that the attachment styles are stable across life-span, and that the four attachment styles in children correspond to the four attachment styles in adolescence and adulthood, i.e. secure, preoccupied, fearful-ambivalent, and dismissive attachment (Bartholomew and Horowitz, 1991; Antonucci et al., 2004). Furthermore, attachment has an impact on the development of emotional stability, representation of self, self-worth, motivational tendencies, social interactions, and various forms of pathology (Brennan and Shaver, 1998). Research on attachment showed clearly that secure attachment style leads to the development of a secure base script, facilitates emotional equilibrium, and has an impact on social competences (Pietromonaco and Feldman, 2000; Ragoni et al., 2008; Chen et al., 2013; Schindler et al., 2005), while insecure attachment leads to different dysfunctions and psychopathology (Bakermans-Kranenburg and van IJzendoorn, 2009; Brennan and Shaver, 1998; Schindler et al., 2005; Cassidy and Shaver, 1999; Fortuna and Roisman, 2008). Apart from the abovementioned theses, number hypotheses were formulated on the attachment and cognitive development and functioning. People with different attachment styles seem to behave differently on a cognitive level. Secure internal working model provides a basis for autonomous exploration, problem solving, enhance the flow of information, and affect metacognitive process;
while insecure attachment is characterized by multiple contradictory models (De Ruiter and Van IJzendoorn, 1993). Matas, Arend and Sroufe (1978) found that securely attached children engaged in more symbolic play during a free play session at 2 years old, were more emphatic, purposeful, and achievement-oriented. There are also documented associations between attachment and IQ score (van IJzendoorn and van Vliet-Visser, 1988). The links between secure attachment and reliance on problem-focused coping strategies demonstrate that securely attached people tend to deal with problems creatively and by compromising; they are willing to discuss and solve conflicts (Simpson et al., 1996). This is possible because attachment is closely related to semantic memory network including the procedural strategies. These procedures are a part of mental schemata that involve positive affect, security-related pictures, positive stable sense of self-efficacy, self-esteem, and reliance on constructive ways of coping (Mikulincer and Florian, 1995; Mikulincer and Shaver, 2003).

Taking into account the abovementioned data, we aim to examine links between attachment and inflexibility as an aspect of motivational/personality functioning. It is worth to note that this term is defined differently in psychology (Furnham and Marks, 2013). Cognitive inflexibility/rigidity is thought to be associated with a mental set, perseverativeness, persistence, and disposition rigidity, while cognitive flexibility is an opposite term and is defined as divergent thinking, adaptability, and creativity (Kossowska, 2005). Cognitive rigidity vs. flexibility is described by different concepts, and these concepts seem to be partly independent. The main three concepts that were chosen for this study refer to inflexibility defined as personality dispositions: intolerance of ambiguity by Budner, need for closure by Kruglanski, and dogmatism by Rokeach.

Tolerance for ambiguity was defined by Budner (1962) as "the tendency to perceive ambiguous situations as desirable". On the contrary, intolerance for ambiguity means that an ambiguous situation is perceived as a source of threat and a complex, inadequate or contradictory situation. Intolerance of ambiguity was conceived as a cognitive disposition. Some findings support this as a stable dispositional trait that underlie reactions to risk and ambiguity, and link this trait with dogmatism, ethnocentrism, conventionality, and other personality and emotional traits (Furnham and Marks, 2013).

Dogmatism is defined as a personality trait associated with a closed cognitive organization of beliefs and also disbeliefs about reality. It is an opposite trait to open-mindedness. Dogmatism is thought to be a cognitive structure, not just rigid thinking. This structure is related to authoritarianism, political persuasion, and religiosity. A dogmatic person displays oversimplified thinking and perception, and resistance to change attitudes or beliefs. Rokeach (1960) stated that this personality trait develops in infancy because of anxious relationships between children and parents.

Human close-mindedness is also defined as a need for closure - an individual disposition related to the information processing and judgment. It is a need for an answer to end information processing and judgment, even though the answer might be incorrect (Webster, Kruglanski, 1994). Flexibility is an opposite phenomenon to close-mindedness and is defined as an ability to pass from one idea to another or the capacity to consider various problems in terms of multi-dimensions. People with cognitive flexibility are able to deal with new and difficult situations; they can produce alternative opinions and new ideas (Kruglanski, 1989).

Previous research shows some data supporting links between attachment and cognitive rigidity, however they are incongruent. For example, Mikulincer (1997) found that securely attached people scored lower on self-report measures of cognitive closure, which support the main theses of attachment theory. Securely attached adults report low level for cognitive closure (intolerance of unpredictability and ambiguity), are more likely to rely on new information, and are more reluctant to endorse rigid beliefs than insecure persons (Mikulincer, 1997). Anxious and avoidant individuals tend to make judgments on the basis of early information and ignore later data (ibid.). Furthermore, anxious and avoidant people tend to evaluate the quality of an essay based on the presumed ethnicity of the writer, which means that their thinking is more stereotypical and less flexible. These findings were the basis to Mikulincer and Arad (1999) examination on attachment-style differences and the revision of knowledge about a relationship partner (following behavior of the partner was inconsistent with the previous knowledge). They found that secure individuals were more likely to
revise their baseline perception of the partner after being exposed to expectation-incongruent information about partner’s behavior. Moreover, secure adults showed more openness and they react to a positive affect with broader categorization (Mikulincer and Sheffi, 2000). Interestingly, the contextual activation of attachment-security representation increased cognitive openness, and led even chronically anxious and avoidant people to revise their conception of a partner based on new information demonstrating a possibility of changing mental schemata.

Rogers (1961) stated that the final characteristic of a fully functioning person is creativity. It means that the ability to produce new and innovative thoughts, actions, and objects, and willingness to contribute to the growth and actualization of others. Such characteristic was tested as being associated with attachment; attachment security provides a foundation for openness to experience (Mikulincer and Shaver, 2005). People securely attached display the bases for open, flexible organization of experience, emotional competences, and self-reflective capacity (Cassidy, 1994). In sum, research shows links between self-reports on attachment security and different manifestations of flexibility, such as better functioning in conflict with interpersonal interactions (e.g., Simpson et al., 1996), more creative problem solving (Mikulincer and Sheffi, 2000), better maintenance of task performance following an uncontrollable failure (Mikulincer and Florian, 1998), and better instrumental and socio-emotional functioning during group interactions (Rom and Mikulincer, 2003). The sense of attachment security is also positively associated with adaptive interpersonal functioning and the ability to maintain satisfactory and stable close relationships (Feeney, 1999).

Insecurity in the adult attachment is associated with closed-mindedness, rigidity, and need for closure (Saroglou et al., 2003). Anxiety was found as positively related to both dimensions of need for closure, need for order, and predictability (ibid.). To the contrary, Gündüz (2013) found positive correlation between negligent attachment and cognitive flexibility. Results on the relations between attachment and rigidity vs. flexibility seem to be incongruent. The above aspects of flexibility/rigidity were not related to purely cognitive terms in every reported study, and so we wanted to continue this idea and aim to explain the relationship between attachment and flexibility/inflexibility as personality dispositions in the current study.

The purpose of this study is to examine the relationship between attachment and mental rigidity - flexibility defined as tolerance of ambiguity, dogmatism, and need for closure. The measures were in a Polish sample by three different scales: by Budner, Rokeach, and Kruglanski.

Methods

Participants
The test subjects were 180 individuals of similar age and educational background (90 men, 90 women); average age was 22.80 years (SD = 3.98). Based on an interview, we determined that the subjects did not suffer from any chronic somatic diseases nor neuropsychiatric disorders.

Procedure and measures
Each participant was instructed to complete self-report questionnaires, and in an additional interview the age, educational level, occupation, impairments and/or neurological diseases were determined. Informed written consent was obtained, and the assessment procedure was approved by a local institutional committee. Participation in this study was voluntary.

The following techniques were employed in the study:

1. Adult Attachment Style Questionnaire (Plopa, 2008) was used to diagnose individual attachment styles. The questionnaire consists of 24 statements, 8 for each of the scales. The respondent grades his/her reply to each statement on a scale from 1 to 7. The following styles can be diagnosed: secure, fearful-ambivalent and avoidant. The questionnaire is based on the concept and method of the Adult Attachment Style by Hazan and Shaver (1987). The psychometric values of the questionnaire, such as accuracy, internal concordance, validity and reliability are robust (Plopa, 2008). Three subscales were used in the study to compare the scores with those of the ECR-R Questionnaire, then one dimension – the secure attachment style – was taken into consideration in regression models and in factor analysis. This was a quantitative variable.

2. ECR-R Questionnaire (Experiences in Close Relationships- Revised Adult Attachment
Questionnaire) by Fraley, Waller, and Brennan (2000) was used to test attachment styles. It consists of two dimensions: fear and avoidance. The first dimension - fear attachment, is understood as a tension and vigilance connected with rejection and solitude. The second dimension - avoidance of commitment, points to a discomfort experienced in connection with closeness and dependence on others; thus, it reflects the level to which a person does not trust his/her partner's good intentions, at the same time trying to remain behaviourally independent and emotionally distant (Fraley et al., 2000). Based on the results in these scales, there are four attachment styles defined: secure (low score on both scales), preoccupied (high score on the scale of fearful attachment, low on the scale of avoidant attachment), fearful-avoidant (high score on both scales), avoidant (low score on the scale of fearful attachment, high score on the scale of avoidant attachment) (ibid.). The questionnaire consists of 36 statements, 18 for each of the scales, and it allows respondents to place their replies on a 7-point scale, from "absolutely agree" to "absolutely disagree". The psychometric values of this tool are very good (Sibley et al., 2005; Fraley et al., 2011).

In the current study, the two dimensions of 'fear' and 'avoidance' were used as numeric variables in multiple regression models, and in a factor analysis.

3. Need for Closure Scale (Webster and Kruglanski, 1994). Need for closure reflects two factors: the first factor comprises five domains; preference for order, predictability, intolerance of ambiguity, closed-mindedness, and the second factor comprises decisiveness; the structure of scale is hierarchical. The subscales are in a 7-point Likert-type format and contain 32 items.

4. Tolerance for Ambiguity Scale by Budner. The 16-item scale. All responses are based on a seven-point Likert-type scale, from 1 – strongly disagree to 7 - strongly agree. The total score indicates the level of tolerance of ambiguity. Reliability and internal consistency of this scale are low, thus it was criticized (Benjamin et al., 1996; Furnham and Marks, 2013).

5. Dogmatism Scale by Rokeach (1960) contains 21-items. It measures dogmatism as „unjustified certainty" through responses on a 6-point Likert-Type scale (from strongly disagree to strongly agree). The scale is psychometrically good; Cronbach alfa = 0.78.

Results

Descriptive statistics for attachment dimensions by Fraley and cognitive rigidity are presented in table 1.

<table>
<thead>
<tr>
<th>Variables</th>
<th>M</th>
<th>SD</th>
<th>Min.</th>
<th>Max.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attachment:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fear attachment</td>
<td>57,51</td>
<td>14,63</td>
<td>21</td>
<td>108</td>
</tr>
<tr>
<td>Avoidant attachment</td>
<td>54,03</td>
<td>14,06</td>
<td>22</td>
<td>89</td>
</tr>
<tr>
<td>Secure style</td>
<td>41,30</td>
<td>6,78</td>
<td>24</td>
<td>56</td>
</tr>
<tr>
<td>Inflexibility:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Need for closure</td>
<td>99,43</td>
<td>13,29</td>
<td>66</td>
<td>133</td>
</tr>
<tr>
<td>Preference for order</td>
<td>28,02</td>
<td>5,61</td>
<td>13</td>
<td>40</td>
</tr>
<tr>
<td>Predictability</td>
<td>28,25</td>
<td>5,59</td>
<td>13</td>
<td>43</td>
</tr>
<tr>
<td>Intolerance of ambiguity</td>
<td>23,82</td>
<td>4,73</td>
<td>21</td>
<td>34</td>
</tr>
<tr>
<td>Closed-mindedness</td>
<td>19,34</td>
<td>3,32</td>
<td>11</td>
<td>28</td>
</tr>
<tr>
<td>Decisiveness</td>
<td>18,45</td>
<td>5,08</td>
<td>5</td>
<td>30</td>
</tr>
<tr>
<td>Tolerance of ambiguity</td>
<td>54,64</td>
<td>9,64</td>
<td>32</td>
<td>96</td>
</tr>
<tr>
<td>Dogmatism</td>
<td>75,88</td>
<td>14,36</td>
<td>48</td>
<td>113</td>
</tr>
</tbody>
</table>

First, we performed a multiple regression analysis to test if the attachment styles are predictors for the different types of cognitive rigidity (table 2).

<table>
<thead>
<tr>
<th>Attachment</th>
<th>Need for closure</th>
<th>Tolerance of ambiguity</th>
<th>Dogmatism</th>
<th>R</th>
<th>R²</th>
<th>F(3, 176)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Secure</td>
<td>.02</td>
<td>-.02</td>
<td>.05</td>
<td>.30</td>
<td>.09</td>
<td>2.44*</td>
</tr>
<tr>
<td>Fear dimension</td>
<td>-.15</td>
<td>.12</td>
<td>.22**</td>
<td>.31</td>
<td>.10</td>
<td>9.78***</td>
</tr>
<tr>
<td>Avoidance dimension</td>
<td>.07</td>
<td>.09</td>
<td>.19*</td>
<td>.25</td>
<td>.06</td>
<td>2.41*</td>
</tr>
</tbody>
</table>

The multiple regression analysis shows that the adopted model explains only a bit of the variance in the results in relation to cognitive rigidity. The secure attachment style was not found to be a predictor for any type of cognitive flexibility/rigidity. The most significant correlations were found for the fearful attachment dimension. Fear attachment dimension explained 10% of the variance in the results for dogmatism; the higher score in the fear dimension, the higher score in dogmatism. Avoidant attachment dimension explained only 6% of the variance in the results for dogmatism. The above results show similar results in attachment as measured by two scales; Plopa's Scale and Fraley's. Two
questionnaires were used to confirm the attachment assessment. Need for closure as a total score is found not to be related to attachment, secure attachment did not correlate with inflexibility measures, and fearful attachment is found as the main predictor for dogmatism.

**Table 3.** Multiple regression analysis (dependent variables: aspects of need for closure, independent variables – secure attachment style by Plopa, fear and avoidance dimensions by Fraley et al. (n=180))

<table>
<thead>
<tr>
<th>Attachment dimension</th>
<th>PO β</th>
<th>PRE β</th>
<th>InA β</th>
<th>CL β</th>
<th>DE β</th>
<th>R</th>
<th>R²</th>
<th>F (3,176)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Secure dimension</td>
<td>.02</td>
<td>.05</td>
<td>.02</td>
<td>.07</td>
<td>.24</td>
<td>.96</td>
<td>1.34</td>
<td></td>
</tr>
<tr>
<td>Avoidance dimension</td>
<td>-.07</td>
<td>.03</td>
<td>.15*</td>
<td>.09</td>
<td>-.22*</td>
<td>.28</td>
<td>.07</td>
<td>2.41*</td>
</tr>
</tbody>
</table>

PO – preference for order, PRE – predictability, InA – intolerance of ambiguity, CL – closed-mindedness, DE – decisiveness; * p<.05.

While performing regression analysis for different aspects of the need for closure (Table 3), two significant results were found. Avoidance attachment dimension explains only 7% of the variance of the results in intolerance of ambiguity and decisiveness; higher avoidant attachment is related to higher intolerance of ambiguity and lower decisiveness as measured by Need for Closure Scale.

Then, as it was shown, the relationship between attachment and mental inflexibility as personality dispositions is not confirmed in every aspect. The main predictor for these relationships is the fear attachment dimension. A principal components factor analysis was conducted to explain these links better. We aimed to find relations between all of the aspects of variables. The Kaiser-Meyer-Olkin measure and Bartlett's test show that the data were suitable for factor analysis (Kaiser-Meyer-Olkin Measure of Sampling Adequacy = .863, Bartlett's test of sphericity: Chi-square (136) = 4398.23; p<.001). The principal component factor analysis shows that the attachment styles, attachment dimensions, tolerance of ambiguity, need for closure and its subcategories, and dogmatism emerged three main factors (Table 4). The first factor was loaded by fear and avoidant attachment dimensions, dogmatism, intolerance of ambiguity as a subcategory of the need for closure, and low decisiveness. A higher score in the fearful and avoidant attachment is associated with higher intolerance of ambiguity as an aspect of the need for closure, lower decisiveness, and higher dogmatism. The second factor contains only tolerance of ambiguity as measured by the Budner scale. The third factor comprises only decisiveness as an aspect of the need for closure. The first important finding is that the factor analysis shows that Budner concept of tolerance of ambiguity is independent of the other meaning of mental rigidity. Another important finding is that even total score of the need for closure did not correlate with attachment but some of its aspects like decisiveness and intolerance of ambiguity are linked to attachment.

**Table 4.** Principal components analysis Varimax with Kaiser normalization (n = 180)

<table>
<thead>
<tr>
<th>Variables</th>
<th>Factor 1</th>
<th>Factor 2</th>
<th>Factor 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Secure style</td>
<td>-.03</td>
<td>.23</td>
<td>.04</td>
</tr>
<tr>
<td>Fear dimension</td>
<td>.63</td>
<td>.24</td>
<td>-.35</td>
</tr>
<tr>
<td>Avoidance dimension</td>
<td>.51</td>
<td>.30</td>
<td>.06</td>
</tr>
<tr>
<td>Need for closure</td>
<td>.10</td>
<td>.16</td>
<td>.03</td>
</tr>
<tr>
<td>Preference for order</td>
<td>.11</td>
<td>-.05</td>
<td>.10</td>
</tr>
<tr>
<td>Predictability</td>
<td>.15</td>
<td>.15</td>
<td>.12</td>
</tr>
<tr>
<td>Intolerance of ambiguity</td>
<td>.54</td>
<td>.10</td>
<td>.13</td>
</tr>
<tr>
<td>Closed-mindedness</td>
<td>.12</td>
<td>.09</td>
<td>.10</td>
</tr>
<tr>
<td>Decisiveness</td>
<td>-.41</td>
<td>.18</td>
<td>.59</td>
</tr>
<tr>
<td>Tolerance of ambiguity</td>
<td>.15</td>
<td>.58</td>
<td>.09</td>
</tr>
<tr>
<td>Dogmatism</td>
<td>.50</td>
<td>.24</td>
<td>.23</td>
</tr>
</tbody>
</table>

**Discussion**

The present findings show that not all attachment styles and dimension are associated with mental rigidity defined as personality dispositions. First surprising finding, not consistent with the study assumption about secure attachment predicting mental flexibility, shows that secure attachment was not related to any mental aspect measured in this study. It is not in line with the data reviewed in the Introduction such as e.g. Mikulincer, (1997); Mikulincer and Arad, (1999); Mikulincer and Florian, (1998); Mikulincer and Shaver, (2003). Another important finding is that tolerance of ambiguity by Budner did not correlate with any attachment dimension or style. The main predictor for inflexibility defined as dogmatism and as a need for closure’ aspect (decisiveness and intolerance of ambiguity) was fearful attachment; however, it explained only some of the variance.

Although the links between attachment and mental rigidity were not examined in the same way as in the literature and our hypotheses on these links are based on different measures, we can conclude that our results are not in line with the other data. Firstly, it may be explained by another important finding: three aspects of cognitive inflexibility seem to be partly
independent as shown by factor analysis. Budner's concept of tolerance of ambiguity is not associated with any attachment type or inflexibility form. This concept has another origin than the other rigidity forms; it is not a personality disposition as it has been argued, it refers rather to attitude and is a context-dependent measure (Furnham and Marks, 2013). As being a context-dependent measure (situationally determined attitude) it does not reflect stable tendency to present rigid way of analyzing and understanding the reality. And that is why it is not related to the stable aspects of behaviour as attachment or other motivational rigidity forms. There are opinions supporting this way of explanation of our findings; different concepts of rigidity are independent and not inter-correlated (Furnham and Marks, 2013). Another possible explanation of the lack of links between attachment and Budner's concept is related to the low statistical power of Budner's scale (Benjamin et al., 1996; Furnham and Marks, 2013).

Importantly, the fear attachment dimension is the predictor for dogmatism. It confirms Rokeach's assumptions and results. It means that experience of anxiety, fear, and the general insecurity in relationships with caregiver may form the basis for cognitive rigidity. Experience of fear is leading to form perseverativeness and may result in dogmatic viewpoints. This type of relations is consistent with some findings where they show that authoritarianism is a reaction towards fear and anxiety (Schultz and Stone, 1997). They explained the origin of the authoritarianism as being closely related to the fearful attachment model. The links between neuroticism and cognitive rigidity were confirmed (Kruglanski, 1989; Schultz and Stone, 1997). Another finding supporting the assumptions is that avoidant attachment explains cognitive rigidity defined as some aspects of the need for closure; it increases intolerance of ambiguity and decreases decisiveness. Possibly, the bases on these relations are rooted in the mechanisms of trait anxiety which is incorporated in mental/cognitive structures. Anxiety as characteristics is a disposition or a motive in a result of past negative emotional experience, and persons with this individual trait tend to perceive situations as threatening and to respond to such situation with excessive fear. Trait anxiety is closely associated with fearful and avoidant attachment, these two attachment styles are inter-correlated, as it was shown by the principal component analysis. The anxiety mechanism constitutes the fearful and avoidant attachment styles. The experience of fear, anxiety, tension, and conflict results in the development of fear-related characteristics, which is an essential ingredient of the fear attachment. It is consistent with many findings which showed associations between insecurity, anxiety, and psychopathology (Dozier et al., 2008; Fortuna and Roisman, 2008; Madigan et al., 2006). According to the cognitive theory of anxiety, the adverse influence of anxiety leading to the development of dysfunctional personality traits is based on its two-sided effect related to the cognitive-affective system (Öhman et al., 2000). Trait anxiety negatively impacts such functions as concentration, perception, information processing, human behaviour, physiological reactions, and communication with the environment (Kindt, 2014). Persons with high level of anxiety modify their perception of reality in a way that they mark different stimuli with negative valence and concentrate on these negative stimuli (Öhman et al., 2000). They form different strategies to deal with extensive negative emotions, and one of these coping strategies may be dogmatism or intolerance of ambiguity. Dogmatic thinking protects people against negative affect. The self-defensive motivation causes 'epistemic freezing' as Kruglanski (1989) postulates and it manifests in cognitive closure, rigidity, preference for secure, stable knowledge, rejection of information that heightens ambiguity and challenges the validity of one's existing beliefs. Intolerance of ambiguity as an incorporated mechanism in cognitive structures led people to deal with reducing discomfort in many situations. Ambiguity means a discomfort, and it is not a desirable situation which is why people tend to use self-defensive motivational strategies.

Conclusion
Hypothesis on neural bases. It may be postulated that mental rigidity defined as personality and motivational disposition is based on a stable neural mechanism. This is because fear attachment is a predictor for dogmatism. There is support for the idea that neural mechanisms are the base of the fear/anxiety as disposition (Gawda and Szepietowska, 2016). The data also shows that personality dimensions are rooted in the corresponding brain systems (De Young et al., 2010). Thus, dogmatism as motivational
disposition is potentially associated not only with the activation of specific brain regions but also with the variation of brain structure because the personality factors are found to be linked to structural variations of the brain (De Young, 2010). For instance, Openness (from the Big Five factors) in contrast to mental inflexibility/dogmatism is associated with activation and structural variation in the lateral prefrontal cortex (De Young, 2010; De Young et al., 2010). Mindfulness which seems to be related to dogmatism in opposing way is found as linked to more efficient PFC inhibition of the amygdala responses during affect labelling (Creswell et al., 2007). Furthermore, mindfulness involves activation in the medial prefrontal, ventrolateral prefrontal, and ventromedial prefrontal cortices (Creswell et al., 2007). Thus, we may assume that inflexibility defined as dogmatism based on fear attachment is rooted in a stable neural mechanism. Future research may be focused on the verification of this hypothesis.

References


