



The role of the need for cognition in coping with difficulties – research review

Rola potrzeby poznania w radzeniu sobie z trudnościami – przegląd badań¹

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Abstract: The need for cognition is associated primarily with the functioning of the cognitive sphere, motivation to engage in intellectual tasks, inquisitiveness and curiosity. Meanwhile, researchers indicate that it can also affect human life in other areas. The need for cognition transpires to be a tendency to cognitive effort not only in terms of intellectual tasks, but also in interpersonal situations and emotionally demanding situations. The article presents a description of this variable, its correlates as well as the specificity of the functioning of people with a high need for cognition. Studies showing the importance of the need for cognition for the functioning of an individual in interpersonal relationships and for coping with difficult situations have been compiled. The relationship between the need for cognition and human emotionality and its importance as a resource in human life have been emphasized.

Keywords: coping, emotional intelligence, need for cognition, self-regulation

Abstrakt: Potrzeba poznania kojarzy się przede wszystkim z funkcjonowaniem sfery poznawczej, motywacją do angażowania się w zadania intelektualne, dociekliwością i ciekawością. Tymczasem badacze wskazują, że może ona mieć wpływ na życie człowieka także w innych obszarach. Potrzeba poznania okazuje się być tendencją do wysiłku poznawczego nie tylko w zakresie zadań intelektualnych, ale również w sytuacjach interpersonalnych i sytuacjach wymagających emocjonalnie. Artykuł przedstawia opis tej zmiennej, jej korelaty a także specyfikę funkcjonowania osób o wysokiej potrzebie poznania. Zestawiono badania ukazujące znaczenie potrzeby poznania dla funkcjonowania jednostki w relacjach interpersonalnych oraz jej radzenia sobie w sytuacjach trudnych. Podkreślony został związek potrzeby poznania z emocjonalnością człowieka oraz jej znaczenie jako zasobu w życiu człowieka.

Słowa kluczowe: inteligencja emocjonalna, potrzeba poznania, radzenie sobie, samoregulacja

Introduction

The concept of the need for cognitions was introduced in literature by Cohen et al. (Cohen, Stootland, Wolfe, 1955). The researchers studied cognitive motivation and defined the need for cognition in reference to reduction of tension that is created in situations of intolerance of ambiguity. Authors (Cohen et al., 1955, p. 291) defined the need for cognition as “an individual need for organization of one’s experience in a meaningful way, the need to structure important situations in a meaningful, integrated way, and the need to understand and make sense of the world”.

Less than 30 years later, during their studies on motivation for cognitive effort, the psycholo-

gists Cacioppo and Petty (1982) showed that the tendency to engage in cognitive tasks is different in cognitive misers than in cognitively generous individuals.

The authors determined that in a group of people with similar cognitive capacity, some individuals have the tendency to avoid intellectual effort, while others are willing to engage in it and enjoy it. The same authors define the need for cognition (NFC) as a motivational disposition that develops on the basis of an individual’s experience of one’s own competence which constitutes the individual’s readiness to engage in cognitive effort.

¹ Artykuł w języku polskim: <https://www.stowarzyszeniefidesetratio.pl/fer/2023-2Zmud.pdf>

The interest of researchers in this variable is usually connected with its relationship with learning and the functioning of the cognitive sphere (Luong et al., 2017; Maloney, Retanal, 2020; Oh, 2022) as well as education achievements (e.g., Colling, Wollschläger, Keller, Preckel, Fischbach, 2022; Grass, Strobel, Strobel, 2017; Strobel, Behnke, Gärtner, Strobel, 2019; von Stumm, Ackerman, 2013). As indicated by research (Petty, Briñol, Loersch, McCaslin, 2009), the need for cognition is not only the tendency to engage in cognitive activities, but also in social situations that are intellectually and emotionally demanding. The readiness to accept cognitive challenges facilitates the individual's coping skills (e.g. Bye, Pushkar, 2009) and constitutes a resource in interpersonal relationships (e.g. Shestowsky, Horowitz, 2004; after: Petty et al., 2009).

1. What is the need for cognition?

Cacioppo and Petty (1982, p. 116) define NFC as “the tendency towards engagement in and enjoyment of cognitively demanding activities”. They interpret it as the individual's tendency to display increased effort during reasoning or solving problems as well as when the individual seeks information which can be useful to cope with various difficulties. The need for cognition is one of the dimensions of cognitive motivation, connected with the individual's focus on cognitive effort specifically due to the enjoyment that they derive from it. The researchers proposed that the most important element of the need for cognition is the cognitive activity itself, and the individual's engagement in it, rather than its outcome. Later studies (Steinhart, Wyer, 2009) have proven, however, that individuals with a high need for cognition are also motivated by external factors connected with the anticipated positive result of their activity.

The need for cognition described a stable, independent motivation for intellectually demanding tasks. It is categorized as an investment trait which determines “when, where, and how people invest time and effort in their intellect” (von Stumm, Ackermann, 2013, p. 841). NFC is a predictor of behaviours connected with realization of goals and allocation of resources (Fleischhauer et al., 2010), as well as self-regulation (Strobel et al., 2021).

The need for cognition is shaped with time, as a result of changes in one's life, participation in various situations, experiencing success, competence, and efficient coping (Petty et al., 2009; Strobel, Anacker, Strobel, 2017). NFC develops on the basis of the individual's own activity (Żmuda, Sękowski, 2021a) that supports the shaping of the individual's skills and expansion of their knowledge, and thus positively contributes to the sense of agency. The authors connect the need for cognition primarily with intellectual activity and the individual's sense of intellectual competence (Cacioppo, Petty, 1982; Fleischhauer et al., 2010), although research shows that its predictors also include emotional intelligence (Żmuda et al., 2021), temperamental resilience, and low emotional reactivity (Żmuda, Sękowski, 2021a), openness to experiences, or emotional stability (Soubelet, Salthouse, 2017). According to the authors (Cacioppo, Petty, 1982; Soubelet, Salthouse, 2017) the need for cognition is a relatively stable trait, but it can be developed. Research (Bruinsma, Crutzen, 2018) shows the need for cognition develops more intensely in young adults than in older individuals. It is most likely connected with young people's increased activity. Interestingly, research shows that NFC develops regardless of the perceived parental attitudes in the mother and the father (Żmuda, Sękowski, 2021b), which suggests that the role of the individual's activity in the development of NFC is significant.

Numerous studies were conducted to explore the relationships between the need for cognition with other variables. The researchers were interested in discovering how NFC is connected both with the cognitive sphere and with personality traits or emotions.

The studies proved positive relationships between NFC and the objectivity of the performed assessment and the individual's engagement in formulating the assessment, as well as the negative relationship between NFC with close-mindedness (Cacioppo, Petty, Feinstein, Jarvis, 1996).

Regarding personality traits, studies have shown a negative correlation between NFC and neuroticism (Matusz, Traczyk, Gąsiorowska, 2011), a positive correlation with openness to experience, diligence, extroversion, striving for achievements, and traits that

suggest focus on the goal (Fleischhauer et al., 2010; Russo, Masegosa, Stol, 2022; von Stumm, Ackerman, 2013). A positive, albeit weak correlation has also been observed between the need for cognition and the internal locus of control (Cacioppo et al., 1996). Research to date has also indicated that the higher the need for cognition, the bigger the individual's investment in activity (von Stumm, Ackerman, 2013) and the bigger their precision in decision-making (Kardash, Noel, 2000). Researchers (Cacioppo, Petty, 1982; Matusz et al., 2011) indicate the lack of differences in NFC in women and men.

Although NFC is described as a need, it is, to a larger extent, actually treated as a tendency towards intellectual effort or a personality trait, and the individual's experience based on their activity are believed to be its source (Cacioppo, Petty, 1982; Matusz et al., 2011).

2. The functioning of individuals with a high NFC

Individuals with a high need for cognition see intellectual effort as desirable. Engaging in cognitively demanding tasks, they expect those activities to be accompanied by enjoyment and satisfaction. Individuals with a high NFC display the tendency to choose the central way of processing information, which means that they focus on, and carefully process, the data that is of particular importance for the given problem. Individuals with a low need for cognition, however, choose the peripheral way, processing information of lesser significance and doing it less carefully (Cacioppo, Petty, 1982).

The need for cognition manifests in the effort to study in detail various fields of knowledge, simultaneously explore multiple ideas, and analyze one's way of thinking, in a process also known as metacognition (Petty et al., 2009). Individuals with a high need for cognition are willing to explore various topics deeper because they possess the readiness to understand information on a deeper level. Moreover, they tend to more actively seek data in various sources of knowledge. Seeking and analyzing information is connected with

the motivation to make sense of reality and efficiently cope with difficult situations. The individual does not rely solely on fragments of information or singular opinions, but seeks more extensive data (Cacioppo, Petty, 1982; Cacioppo et al., 1996).

Individuals with a high need for cognition memorize information quickly and frequently without conscious effort; they prefer tasks with a higher level of difficulty and generate more solutions to problems. They are also able to assess situations more accurately and make superior choices in comparison with individuals with a low NFC. They are, additionally, characterized by a more analytical approach to solving problems (Petty et al., 2009, Rudolph, Greiff, Strobel, Preckel, 2018). Due to the tendency to reflect more deeply on the obtained information, individuals with a high need for cognition are more willing to clarify inaccuracies in the data or communication that they receive (Cacioppo et al., 1996), as well as reflect on their own and other people's emotions and behaviour (Petty et al., 2009).

3. The need for cognition and coping in difficult situations

The problem of coping in difficult situations is connected with stress and emotions. In order to cope with and manage emotions and stress, the individual needs to be aware of and able to control and understand them. There is no doubt that this requires intellectual resources that participate in self-regulation and the management of emotions (Mayer Caruso, Salovey, 2016; Śmieja, 2018). In this context, the individual's motivation for engaging in cognitive effort, involving the individual's reflection on the situation in which they participate as well as its emotional aspect, becomes particularly important.

The need for cognition is also positively connected with self-control (Nishiguchi, Takano, Tanno, 2016; Sandra, Otto, 2018). Grass, Scherbaum, and Strobel (2022) have additionally indicated that the higher the need for cognition, the higher is the individual's faith in unlimited resources of self-control. Interestingly, the aforementioned researchers indicate

that NFC and self-control depend on individual differences in the way one uses one's resources, rather than on the amount of those resources.

Executive functions are the basis for efficient coping in problematic situations. They are a complex construct connected with the ability to direct one's thoughts and behaviour in a conscious and purposeful way, and they play an important role in the learning process. Executive functions include processes of self-regulation, updating information, planning, working memory, maintaining concentration, cognitive flexibility, and inhibitory control, that is, the ability to deliberately inhibit one's impulses and reactions (Miyake et al., 2000, after: Hofmann, Schmeichel, Baddeley, 2012)

The level of executive functions depends on the extent to which an individual is willing to invest their cognitive effort (Cohen-Zimerman, Hassin, 2018). Individuals with a high need for cognition display an increased readiness to invest their cognitive effort and self-control thanks to the motivational processes.

Individuals characterized by a high level of executive functions are able to react more flexibly and to adjust their behaviour and emotions to particular situations. The ability to reinterpret a situation results in the ability to change one's emotional reaction to that situation, which is considered an adaptational strategy. Researchers (Hui, Yao, Huang, You, 2022; Nishiguchi et al., 2016) indicate that the risk of cognitive dysfunctions is higher in individuals with a low need for cognition. Those dysfunctions may manifest, among others, as imbalances in inhibitory control of negative thoughts or the inability to reassess situations, which may lead to depression (Gao, Chen, Biswal, Lei, Yuan, 2018; Hui et al., 2022).

The need for cognition, as a factor in cognitive motivation, impacts emotional regulation through the individual's readiness to reassess events or their own reactions. The individual's ability to pay attention to significant information and the quality of arguments allows them to reinterpret the situation which provoked an emotional reaction (Petty et al., 2009; Rudolph et al., 2018). Reassessment of an experience and of one's own reaction requires deliberate, controlled processing of information, which is facilitated by the need for cognition. This applies

also to interpersonal situations which are frequently complex and a change of perspective is necessary for the individual to understand them better.

The skills described above are particularly significant in the context of coping with difficulties. In comparison with individuals with a low need for cognition, those with a high NFC have at their disposal bigger resources for allocation of cognitive effort (Pessoa, 2009; Strobel et al., 2021). They are able to more frequently display adaptational behaviours connected with self-regulation and distance themselves (through reinterpretation of the situation) from negative stimuli.

Emotional intelligence and its positive relationship with the need for cognition is another factor of particular significance in the process of coping (Žmuda et al., 2021). Applying one's cognitive and emotional skills facilitates accurate assessment of the situation and contributes to building one's sense of competence as well as to coping with failures and negative experiences in general (Matczak, Knopp, 2013; Petty et al., 2009). Understanding and controlling emotions and the willingness to perform significant effort connected with analyzing the situation allow the individual to be aware of their own affective state and actions. Moreover, abstract thinking is more developed in individuals with a high NFC (Cacioppo et al., 1996), which facilitates the ability to understand emotions.

Authors indicate that NFC is a significant resource in the context of psychological wellbeing and the individual's emotional balance. It has been shown, too, that the need for cognition is positively connected with good mood (Bye, Pushkar, 2009; Strobel et al., 2017) and mediates between the individual's intellectual sphere and all aspects of their wellbeing (Yazdani, Siedlecki, 2021).

Research conducted by Strobel, Anacker, and Strobel (2017) has shown that the more positive experiences in life the participants have indicated, the higher became their need for cognition, which, in turn, was connected with their positive emotionality. The results obtained by the researchers suggest that NFC is a significant variable facilitating psychological wellbeing through its mediating function between the number of positive experiences and the positive affect. The authors emphasize that life experiences

alone are an important factor in shaping the individual's emotionality. Including the need for cognition as a mediator in this relationship has shown that it participates significantly in the development of positive affect in a human being.

The relationship between NFC and negative emotions is unclear. Some studies (Strobel et al., 2017) have shown that the need for cognition correlates negatively with traits connected with negative emotions; this result, however, has not been confirmed by other research (Fleischhauer et al., 2010).

The need for cognition constitutes a resource also in the context of coping at work and prevention of potential burnout. It has been proven that the higher NFC, the higher subjective efficiency, which protects individuals from professional and academic burnout (Fleischhauer et al., 2019; Naderi, Bakhtiari, Momennasab, Abootalebi, Mirzaei, 2018).

NFC has a positive impact on satisfaction with life (Yazdani, Siedlecki, 2021), with work (Grass et al., 2022), and education (Grass et al., 2017).

Studies (Strobel et al., 2021) have shown that a high need for cognition is connected with a lower level of depression. Authors emphasize that the need for cognition allows the individual to adopt various points of view, change their perspective on events they experience in life, including difficulties, and apply active coping mechanisms. Individuals with a high need for cognition most likely do not feel a smaller amount of negative emotions, but are able to experience an increased amount of positive affect, which might be the result of applying a more adaptational perspective. These individuals display a more positive perception of complex situations in everyday life. Research (Marchetti, Shumake, Grahek, Koster, 2018) indicates that an inverse correlation exists between the tendency towards intellectual effort and symptoms of depression. What is more, a decreased cognitive activity of the individual is connected with the occurrence of psychological disorders (Salamone et al. 2016, after: Hui et al., 2022). To conclude, the need for cognition is a particularly important factor that has influence on the symptoms of depression (Hui et al., 2022). Nishiguchi et al. (2016) claim that NFC might alleviate the negative impact of depression on processes connected with attention.

It is worth noting that NFC is not the only factor that has a beneficial impact on the ability to cope with difficulties. Difficult experiences also facilitate the increase of the need for cognition through the individual's experience of their own competence, if the individual copes with the challenges in a task-oriented way (Strobel et al., 2017). As mentioned earlier in the present study, the need for cognition is connected with openness to experience, extroversion, and motivation, which, in turn, facilitate the perception of difficulties that one experiences in life as challenges, positive assessment of various events, as well as engaged and task-oriented coping mechanisms (Fleischhauer et al., 2010).

Individuals with a high need for cognition tend to avoid excessive negative generalisation, but do not display the tendency towards unrealistic optimism, either. They engage in efficient activities oriented towards solving the problem that they face. Research (Bye, Pushkar, 2009; Strobel et al., 2017) indicates that NFC is connected with an active, problem-focused coping style. What is more, the tendency to reassess situations means that individuals with a high need for cognition are to a higher degree willing to reinterpret situations and their significations, which may result in a change in the experienced affect (McRae, Jacobs, Ray, John, Gross, 2012), as well as protect them from increased stress level (Troy et al., 2010, after: Hui et al., 2022).

Thanks to the willingness to reassess the situation, individuals with a high NFC apply efficient strategies of emotional regulation (Strobel et al., 2017). All these factors facilitate positive emotionality and appropriate affective adaptation.

To summarize the significance of the need for cognition for the ability to cope with difficulties, it must be emphasized that individuals with a high NFC are willing, in emotionally difficult situations, to actively cope and reassess complex issues, as well as to consider various options (Strobel et al., 2017). The need for cognition facilitates the accuracy of assessment or adjusting one's behaviour to a specific situation, which increases efficiency of one's activities and coping, thus allowing the individual to experience their own competence and build faith in oneself. Positive emotionality and satisfaction with various

fields of life connected with the need for cognition support the individual's emotional balance. There is no doubt that the need for cognition is an important resource in the context of coping with difficulties, which is also stressed by researchers (Bye, Pushkar, 2009, Grass et al., 2022)

4. The need for cognition and coping in interpersonal relationships

As mentioned above, the need for cognition does not refer only to strictly intellectual tasks. It is also connected with the willingness to engage in analyzing and solving interpersonal problems (Petty et al., 2009). Individuals with a high NFC perceive all types of situations that encourage reflection and consideration as attractive. An important role in this process is played by the relationship between the need for cognition and emotional intelligence and its capacity for accepting and understanding emotions, managing them, and emotional knowledge (Żmuda, Sękowski, Szymczak, 2021). They connect with NFC primarily due to the aforementioned willingness of an individual to analyze their emotional states and develop their emotional awareness, which facilitates self-cognition. Research (Woo, Harms, Kuncel, 2007) proves that, in comparison with individuals with a low need for cognition, self-cognition is higher in individuals with a high NFC. Self-cognition is a factor that plays an important role in social interactions, as it concerns the awareness of one's own thoughts, intentions, or experiences (Juszczak-Rygałło, 2018), which allow the individual to build deeper relationships and communicate in a more aware and transparent way.

The positive signification of the need for cognition for the development of emotional intelligence is expressed both in the deep processing of information, which translates to the accuracy of the individual's assessment of situations, in willingness to reinterpret behaviours, and in inhibiting impulsive reactions.

Individuals with different levels of the need for cognition display different behaviours in interpersonal situations. Research (Shestowsky, Horowitz, 2004, after: Petty et al., 2009) proves that individuals with

a high NFC display increased engagement in the role they fulfill in a dyad or a small group. They are also more likely to participate in discussions and have a tendency to speak longer in comparison with those with a low NFC.

Individuals with a high NFC are more aware of the basis on which they have generated their opinion, which allows them to have more confidence and stronger faith in their convictions. Simultaneously, however, they display a willingness to adjust their own judgment (Petty et al., 2009), which without doubt facilitates efficient and open communication with others.

Studies by Barlett (2022), conducted on a sample of adults, have shown that a higher need for cognition co-occurred with a lower level of aggression. Other research (Salguero, García-Sancho, Ramos-Cejudo, Kannis-Dymand, 2020), conducted on a group of international students from Spain and Australia has proven that the level of anger and aggression was connected with the metacognitive beliefs in the participants. Individuals who believed in ideas such as "I am unable to control my thoughts" were more prone to activating and maintaining their anger and aggressive behaviours. As mentioned earlier in the present article, the need for cognition is connected with engagement in metacognition, that is, observation of one's own thoughts (Petty et al., 2009) as well as with self-control (Nishiguchi et al., 2016; Sandra, Otto, 2018). The ability to inhibit impulsive reactions and the willingness to reassess situations and one's own emotional reactions allows individuals with a high NFC to display an increased self-control (Strobel et al., 2021), and thus, be less likely to react with anger and aggression. There is no doubt that this ability has a beneficial impact on their social interactions. Due to their complexity and the fact that we seek them in order to satisfy numerous needs, relationships provoke in participants emotional reactions to what happens within their bounds. The ability to engage in intellectual effort and the willingness to analyze what has occurred facilitates constructive behaviours and emotional responses that are adequate to the situation.

Sargent (2004) has proven that individuals with a high need for cognition are less supportive of punishment for criminals than those with a low NFC.

The author explains that individuals with a high need for cognition approve of penal measures to a smaller extent due to the fact that they are able to acknowledge more complex motivations behind other people's actions than those with a low NFC. It is without doubt connected with empathy and the awareness of complexity of root causes of human behaviour.

Research indicates that a positive relationship exists between the need for cognition and empathy (Żmuda et al., 2021). Empathy is not only the ability to share other people's emotions, but also the capacity to perceive social situations and the actions of others in a specific way. Empathic perception occurs on two levels: emotional and cognitive. Empathy refers, to a large extent, to intellectual skills such as reasoning, analyzing, and the perception of one's relationship with another person as well as processes that occur with one's self. A person characterized by a high need for cognition displays an increased tendency to adopt another person's perspective when they analyze the situation, and in this way, is likely to be more empathetic.

Empathy supports the development of one's self-image, as well as interpersonal communication, and has a positive relationship with reasoning about both emotional and cognitive experiences, and even about the morality of one's actions (Bonino, 1993, after: Kliś, 2012). Strobel, Grass, Pohling, and Strobel (2017) conducted studies on the relationship between the need for cognition and moral behaviour. The results showed that individuals with a high need for cognition, characterized by the tendency to process data more deeply and a more complex decision-making process, frequently display more morally appropriate behaviours and reason on a higher level of moral cognition. Researchers propose that the need for cognition is an important factor in moral development.

To conclude, the need for cognition—as a tendency to engage in cognitive effort in various situations, including interpersonal situations and those connected with experiencing emotions—supports the individual's constructive behaviour. NFC is connected with self-control and self-regulation, which has a positive influence on emotional management, both in solving tasks and in interpersonal situations. Thanks to the cognitive flexibility, individuals with

a high NFC are able to adjust their behaviour according to specific circumstances and possess the ability to change their own perspective, which facilitates understanding others and adapting to changes, also in relationships.

Conclusions

The need for cognition is a variable that differentiates individuals primarily regarding the depth of information processing, ways of using their cognitive resources, and general willingness to engage in intellectual effort. The tendency to process data carefully when confronted with challenges results in effectively coping with the problems (Strobel et al., 2017). Individuals with a high need for cognition have a more positive attitude towards difficult situations than those with a lower NFC. Although the need for cognition is mainly associated with strictly intellectual activities and cognitive motivation, researchers (Petty et al., 2009) indicate that individuals with a high NFC are eager to engage also in emotionally demanding interpersonal situations, and they manage them well.

The need for cognition may also be considered an important factor for the individual's mental wellbeing, satisfaction with life, and positive affect (Yazdani, Siedlecki, 2021). What is important, NFC is a significant resource in confrontation with difficult experiences in life (Bye, Pushkar, 2009, Grass et al., 2022).

The present article focused on an overview of studies that provide information on the relationship between the need for cognition and other variables that are significant in the individual's life in the context of functioning in interpersonal relationships, coping with difficulties, and cognitive as well as emotional functioning. There is no doubt that the need for cognition is an important factor and it is worthy of further exploration, for example in the context of family life, communication within family, or shaping parental attitudes. Those areas play a particularly significant role in the individual's life, their development, and mental wellbeing. It would be worthwhile to analyze the impact of the need for cognition on shaping mental resilience of the individual.

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