

## Chapter 3

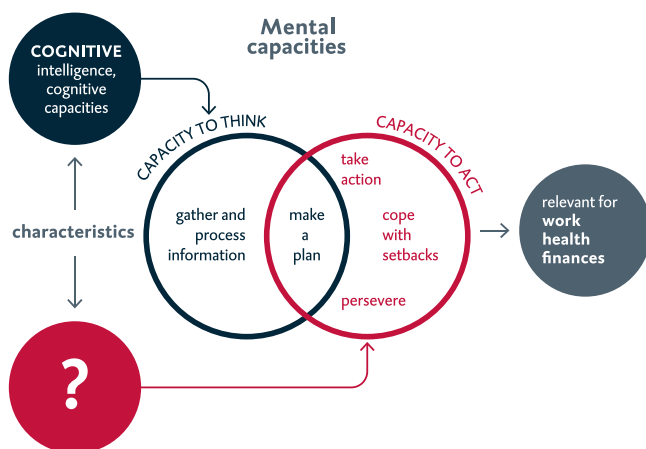
# Determinants of Capacity to Act



In the previous chapter it was found that it is not only intellect that is relevant for self-reliance, but also capacity for action. In this chapter, we intend to delve more deeply into these findings and in particular into the question of what the non-cognitive determinants are of the mental capacities that we identified in Chap. 2.

The diagram below is the same diagram with which we concluded the previous chapter, but now with two circles added on the left-hand side. These contain the cognitive and non-cognitive characteristics that influence whether people have the five mental capacities that are the key to self-reliance. It hardly needs saying that the cognitive characteristics are relevant. Obviously, anyone who is of low intelligence or is functionally illiterate will have greater difficulty gathering and weighing up information. This report therefore deals with the importance of the non-cognitive characteristics.

The aim of this chapter is to ask what the non-cognitive characteristics are. What replaces the question mark (Fig. 3.1)?



**Fig. 3.1** Mental capacities

3.1 Non-cognitive Determinants: Personality Traits

To answer this question, we need to delve more deeply into psychology.

3.1.1 Personality Models

The first source of potential candidates to replace the question mark is personality psychology. In recent decades, various models have been developed within that discipline to illustrate the personality traits that have to be identified. The Table 3.1 shows four models. We will provide a brief explanation of these.

Table 3.1 Personality models

| Big Five               | Eysenck        | Big Three             | Rothbart              |
|------------------------|----------------|-----------------------|-----------------------|
| Extraversion           | Extraversion   | Positive emotionality | Extraversion/surgency |
| Neuroticism            | Neuroticism    | Negative emotionality | Negative affectivity  |
| Conscientiousness      | (Psychoticism) | Constraint            | Effortful control     |
| Agreeableness          |                |                       |                       |
| Openness to experience |                |                       |                       |

Big Five

The first column contains the five factors of the *Five Factor Model* developed by McCrea and Costa<sup>1</sup>, also known as the *Big Five*. This is currently the best known and most commonly used model for classifying personality. This model identifies five general personality dimensions, referred to by McCrea and Costa as *extraversion*, *neuroticism*, *agreeableness*, *conscientiousness* and *openness to experience*.

The key point is that the five factors have *not* been derived from a psychological theory or from empirical observation of human neurobiology, but are the result of a lexical approach, i.e. an analysis of the words people use to describe others. Languages have thousands of words for describing character traits. Various researchers have used factor analysis in an attempt to determine the underlying dimensions. They often ended up with the above five factors (or something very similar).

However, the choice of labels in factor analysis is always somewhat arbitrary. Some researchers have therefore chosen different labels with a different emotional value. For example, the factor *neuroticism* is also referred to as *emotionality* and the factor *openness to experience* as *intellect*.<sup>2</sup>

In a commonly used measure of the Big Five, known as NEO PI-R, each dimension consists of six facets. These provide a reasonable indication of the aspects usually associated with the five main factors (see Table 3.2).

**Table 3.2** Factors and facets of the Big Five

| Domains                | Facets  |   |
|------------------------|---|---|
| Neuroticism            | N1: Anxiety<br>N2: Angry hostility<br>N3: Depression  | N4: Self-consciousness<br>N5: Impulsiveness<br>N6: Vulnerability    |
| Extraversion           | E1: Warmth<br>E2: Gregariousness<br>E3: Assertiveness | E4: Activity<br>E5: Excitement seeking<br>E6: Positive emotions     |
| Openness to experience | O1: Fantasy<br>O2: Aesthetics<br>O3: Feelings         | O4: Actions<br>O5: Ideas<br>O6: Values                              |
| Agreeableness          | A1: Trust<br>A2: Straightforwardness<br>A3: Altruism  | A4: Compliance<br>A5: Modesty<br>A6: Tender-mindedness              |
| Conscientiousness      | C1: Competence<br>C2: Order<br>C3: Dutifulness        | C4: Achievement striving<br>C5: Self-discipline<br>C6: Deliberation |

Taken from Carver and Scheier<sup>3</sup>

### *Tripartition*

The *Five Factor Model* has now become the standard approach. However, as stated, it originates from the words people use to describe each other and not from theory, which does apply to the three other models mentioned. They are based on human neurobiology and each involves three dimensions instead of five.

The oldest of these three is the model developed by Eysenck.<sup>4, 5</sup> He posited two ‘supertraits’, namely *neuroticism* (also known as *emotional stability*) and *extraversion*. Both of them are rooted in specific parts of the nervous system and the brain, and are more or less the same as the first two factors of the *Big Five*, not only in terms of name, but also substantively. The third dimension of Eysenck’s model is *psychoticism*, but this has received less attention than the first two. Related to this is the *Big Three* model developed by Tellegen.<sup>6</sup> This model identifies three factors, namely *negative emotionality*, *positive emotionality* and *constraint*.<sup>7</sup>

Both three-factor models are fully consistent with the findings of developmental psychology, which usually refer to temperament rather than personality. Two main dimensions of temperament form in the first couple of months after birth, namely *sur-gency/extraversion* and *negative affectivity*.<sup>8</sup> The first dimension indicates a tendency towards positive emotions, attention-seeking, a high level of activity, impulsiveness, a high intensity of pleasure, much smiling and laughter and little shyness. The second dimension indicates anger and frustration, anxiety, feelings of unease and sadness, and a prolonged period of recovery after stress. After about a year, a third dimension of temperament also goes ‘online’. This is often referred to as *effortful control*<sup>9</sup> and is described as “the ability to inhibit a dominant response (*inhibitory control*) in

order to perform a subdominant response (*activation control*), to detect errors, and to engage in planning”.<sup>8</sup> The capacity for *effortful control* mainly develops between the ages of two and five, but only reaches its full potential in adulthood.<sup>8</sup>

### *Heredity and stability*

If personality traits or temperaments have a biological substrate, one would expect a certain degree of heredity. This is indeed the case. As long as fifteen years ago Bouchard and Loehlin concluded that “virtually all human traits are influenced by genetic factors to a significant degree”.<sup>10</sup> The degree of heredity for many personality traits is usually estimated at 40–50%.<sup>11, 12, 13</sup> This means that the effect of heredity on personality is almost as great as that of environmental factors.

Temperament and personality are also reasonably stable. When children are very young, their personality is still developing and relatively variable, although fundamental characteristics are already materialising fairly quickly. For children aged three it can already be predicted what their personality will be like when they are 26.<sup>14</sup> After the age of three, the rank order stability in characteristics continues to increase<sup>15</sup>, and when adulthood is reached the further development of personality does not stop completely, but changes only happen gradually and relationships are well established. So, for example, someone who is an anxious person, displaying social avoidance, at the age of 18 will probably continue to be so for the rest of their life.<sup>16, 17</sup>

### *Relationship with life outcomes*

What does this have to do with self-reliance? These types of characteristics are only relevant to this report if they also relate to life outcomes and the way people deal with problems and setbacks. Well, this is indeed the case, as countless studies have shown.<sup>18</sup> Below is a small selection of their findings (translated into the terminology of the *Big Five*)<sup>19</sup>:

- Health. Various personality traits are found to correlate with mental and physical health. A high score in neuroticism is found to be a risk factor, whereas conscientiousness is often actually a protective factor. The results of a meta-analysis by Kern and Freidman “strongly support the importance of conscientiousness-related traits to health across the life span”.<sup>20</sup>
- Academic performance. Conscientiousness also has a strong correlation with academic performance, according to a meta-analysis by Poropat.<sup>21</sup> Altruism and openness have a weak correlation, and extraversion and neuroticism none at all.
- Job performance. Twenty-five years ago<sup>22</sup> carried out an extensive meta-analysis of the correlation between the *Big Five* and job performance. They found a correlation for each factor, but only the one for conscientiousness was statistically significant. Ten years later, Barrick et al.<sup>23</sup> repeated the process, this time with an analysis of meta-analyses of the correlation between the *Big Five* factors and job performance. The result was more or less the same.

There is also a relationship between the five factors and the way people deal with difficulties and setbacks (‘stressors’). People who have a high score in extraversion very often tend to adopt a style known as *engagement coping* (or *approach coping*). This style is oriented towards looking at and engaging with the stressor and the resulting emotions, e.g. by actively devising solutions, making plans and actually carrying them out, and by seeking help. By contrast, people who have a high score in neuroticism very often tend to adopt a style known as *disengagement coping* (or *avoidance coping*). This style is oriented towards escaping the stressor and the resulting emotions, e.g. through denial and disengagement, by suppressing feelings and hoping that the problem will go away by itself. Conscientiousness is also relevant. People with a high score in this factor are more inclined to tackle the problem in question.<sup>24, 25</sup>

3.1.2 Choosing Between Approach and Avoidance Temperament and Self-control

Which of the characteristics from the four models should we now select to replace the question mark? Although the *Big Five* model is currently the most commonly used, science does not provide a definitive answer as to which model is the best and which terms best describe the subject, even though all the models are quite similar. This makes it harder to answer the question of which non-cognitive characteristics to select but also leaves some scope for our own interpretation. Taking all of the foregoing into consideration, we therefore propose to replace the question mark with only the factors that recur in all four models and to label them as ‘approach temperament’, ‘avoidance temperament’ and ‘(capacity for) self-control’ (see diagram). We explain this Table 3.3.

Table 3.3 Personality models

| Personality models     |                |                       |                        |                       |
|------------------------|----------------|-----------------------|------------------------|-----------------------|
| Big Five               | Eysenck        | Big Three             | Rothbart               |                       |
| Extraversion           | Extraversion   | Positive emotionality | Extraversion /Surgency | Approach temperament  |
| Neuroticism            | Neuroticism    | Negative emotionality | Negative affectivity   | Avoidance temperament |
| Conscientiousness      | (Psychoticism) | Constraint            | Effortful control      | Self-control          |
| Agreeableness          |                |                       |                        |                       |
| Openness to experience |                |                       |                        |                       |

### *Temperament: approach and avoidance*

We have borrowed the first two terms from Elliot and Thrash.<sup>26, 27</sup> They also noted that there is a great similarity between the first two dimensions of the above-mentioned models. Based on factor analysis, they found two latent factors behind the personality traits, which they then called *approach* and *avoidance temperaments*. To be specific:

- *approach temperament* is a sensitivity to and orientation towards positive stimuli (e.g. reward) and forms the basis of extraversion, positive emotionality and surgency;
- *avoidance temperament* is a sensitivity to and orientation towards negative stimuli (e.g. punishment) and forms the basis of neuroticism, negative emotionality and negative affectivity.<sup>28</sup>

According to Elliot and Thrash, these two temperaments are “the core dispositions on which other dispositions rest”.<sup>27</sup> These temperaments also make a real difference. The way someone scores in the dimensions indicated by both temperaments actually affects the way they deal with ‘stressors’. We could therefore expect a relationship with someone’s level of self-reliance. Another reason for choosing these two terms in particular is that they conjure up the right associations for the subject of this book. They make it immediately clear what someone’s basic disposition is towards life’s challenges that come their way: to approach them or avoid them.

### *Capacity for self-control*

There is also overlap, in terms of content, with the third dimension of the four models. In this case, too, we are opting for a single common denominator and our preferred term is ‘(capacity for) self-control’.<sup>29</sup> This is “the capacity to alter or override dominant response tendencies and to regulate behaviour, thoughts, and emotions”.<sup>30</sup>

Not every academic psychologist will be as enthusiastic about this choice, but we think it is better than the somewhat ambiguous term conscientiousness. First, the term self-control is a better fit with the terms restraint and effortful control in the third and fourth models in the diagram. Second, the same argument applies as for the choice of approach and avoidance temperament, namely that the term has the right associations. It refers to the capacity for exerting conscious control over one’s own behaviour, and that fits in well with the idea of self-reliance.

Incidentally, instead of self-control, reference is often made to self-regulation in the literature. The latter term is defined as “the self’s capacity for altering its behaviours”<sup>31</sup> or “the process of purposefully directing one’s actions, thoughts, and feelings toward a goal”.<sup>32</sup> Self-control and self-regulation are often even treated as synonyms. However, this is incorrect and can also easily lead to confusion. While self-control is an important element of self-regulation, self-regulation also encompasses other mental characteristics.

## 3.2 Non-cognitive Determinants: Beliefs

We have not yet discussed all the candidates for replacing the question mark. In this section we will be discussing two other relevant psychological concepts, namely *optimism* and *perceived control*. What the two have in common is that they refer to certain *beliefs* about oneself, the world and the relationship between the two. They therefore involve perception, experience and signification. Although these beliefs are sometimes deeply rooted, they are still relatively easily affected by a person's experience. A series of negative experiences in a certain area can completely undermine a person's optimism and feeling of being in control. Conversely, a series of positive experiences can cause them to increase.

### *Self-esteem*

Before discussing optimism and perceived control in depth, we have to clear up a misunderstanding. Contrary to what many people think, it has been found that a positive self-image or feeling of self-esteem is not a relevant factor. It had long been thought in the US in particular that if people feel good about themselves this would lead to better academic and job performance and less depression, teenage pregnancies, drug use, crime, etc. It was regarded as the solution to virtually every problem.

A lot of research was therefore conducted into the effects of self-esteem in the 1980s and 1990s. Baumeister et al.<sup>33</sup> published a review of the biggest and best studies available at the time. Unfortunately, the results were extremely disappointing. In many of the studies, only a weak correlation, if any, was found with the desired outcomes. "Self-esteem is thus not a major predictor or cause of almost anything". They also found no evidence to support the idea that people with a positive feeling of self-esteem could cope better with stress and setbacks.

### *Pessimism and optimism*

However, optimism *is* relevant. The literature distinguishes between two types of optimism. First, *explanatory optimism*.<sup>34</sup> This relates to the way people explain events in their life. People have a pessimistic explanatory style if they explain the things that happen to them on the basis of general and immutable characteristics of the world over which they have no power. People with an optimistic explanatory style explain events on the basis of specific circumstances which they could theoretically change. The style someone has is measured by presenting people with situations such as 'A friend is hostile towards you' or 'You receive lavish praise for your project', and then asking them what the main reason for this would be if it happened to them.

Second, *dispositional optimism*.<sup>35</sup> This is not about possible explanations for specific events, but about general expectations of life. In this view, pessimism and optimism are "broad, generalized versions of confidence and doubt [...] pertaining to life, rather than to just a specific context".<sup>25</sup> This type of optimism is usually measured with statements such as 'If something can go wrong in my life, it does' and

'I'm always optimistic about my own future'. An optimistic character is associated with all kinds of desirable outcomes. For example, optimistic people generally enjoy greater subjective well-being and better health, and they appear to have better social relationships.<sup>36</sup> Optimists and pessimists also cope with stress differently. Optimistic people tend to tackle their problems head-on whereas pessimistic people tend to avoid problems.<sup>37</sup>

### *Perceived control*

Then there is an infinite number of psychological concepts covering the idea of control or mastery in one way or another.<sup>38</sup> We will not mention all of them here but will confine ourselves to the angle adopted by Thompson and Schlehofer<sup>39</sup>, who refer interchangeably to personal control and perceived control. This is "the perception that one has the ability, resources, or opportunities to get positive outcomes or avoid negative effects through one's own actions". To be perfectly clear: we are talking about something other than self-control, the term used in the previous section. The capacity for self-control is anchored in neurobiology and partly genetic, whereas perceived control is a belief about yourself, the world and the relationship between the two.

According to Thompson and Schlehofer, perceived control consists of two elements, namely 'locus of control' and 'self-efficacy'. The first element relates to the question as to whether someone believes that people can achieve their goals through their *own actions* and avoid bad outcomes (in this case an internal locus of control), or whether this is determined by external factors (in this case an external locus of control). The second element relates to the question as to whether someone thinks they have the qualities and skills needed to achieve their goals. The first therefore relates to beliefs about external reality and the second to beliefs about oneself. Both elements of perceived control are consistent with what professionals describe as 'belief in your own abilities' in Chap. 2.

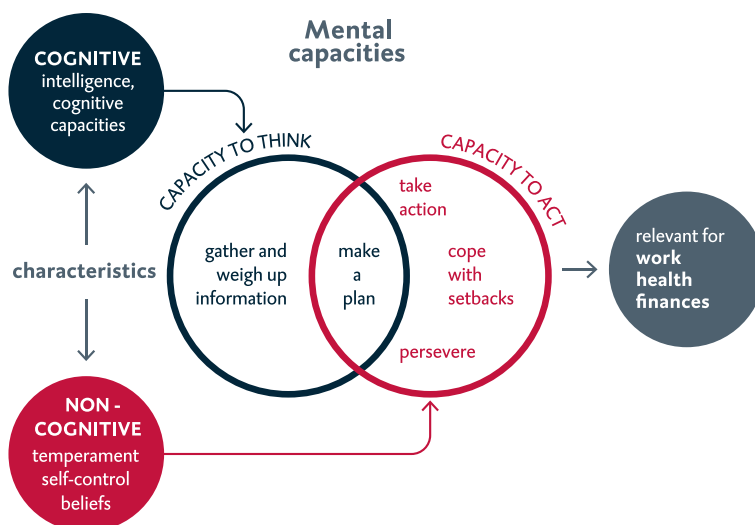
Various scales are available for measuring perceived control or aspects of it. They often relate to a specific domain, e.g. 'health efficacy' or 'financial self-efficacy'. In addition, there is one general scale for perceived control, known as the *Pearlin and Schooler Mastery Scale*. This contains statements such as 'I can tackle just about anything if I put my mind to it' and 'I often feel helpless when dealing with life's problems'. Research shows that a feeling of control has a positive impact. It is linked to emotional well-being, coping better with stress and fewer physical effects of stress, better performance, less pain and a greater chance of success in difficult changes in behaviour.<sup>40</sup>

As far as societal outcomes are concerned, it therefore makes little difference whether people are happy with themselves or not. What it is about is that they believe they are capable of improving their situation and believe that things will turn out well. However, more is not always better with these concepts. An overdose of optimism can cause people to underestimate problems and an exaggerated 'can do' attitude can result in irresponsible behaviour ('I can stop drinking whenever I want'). It is about achieving the right level of optimism and perceived control.



### 3.3 Relationship Between Characteristics and Mental Capacities

We can therefore fill in the diagram presented above as follows (Fig. 3.2).



**Fig. 3.2** Characteristics, mental capacities and societal domains

The question now is: what exactly is the correlation between the cognitive and non-cognitive characteristics on the one hand and the five mental capacities which are the key to self-reliance on the other? In the previous chapter, we demonstrated that these capacities correlate not only to cognitive characteristics but certainly also to non-cognitive characteristics. It would, however, be nice if we had ‘harder evidence’ for this. After all, if we only find a significant correlation between cognitive characteristics and the five capacities for self-reliance, thinking and talking in terms of mental capacities for self-reliance adds nothing. That would just be another way of saying that people of high intelligence and with good cognitive capacities often do better in many areas of life than people of low intelligence and with poor cognitive capacities. We already knew that.

If, however, a significant correlation could be found between non-cognitive characteristics and the five capacities for self-reliance, there would be much more to it. This would really involve a separate non-cognitive dimension that influences whether a person has these capacities. The hypothesis advanced in this book is that this is indeed the case. We will justify our hypothesis in quantitative terms in this section.

#### *Measuring mental capacities*

To this end, we first have to establish whether people have the mental capacities that are the key to self-reliance. In order to measure this, we conducted a survey of

a representative sample of 1,000 Dutch people aged 18 and over in the autumn of 2015.<sup>41</sup> We did not assess all the mental capacities individually but used an existing measuring tool, i.e. the ‘Utrecht Proactive Coping Competence’ scale (UPCC, see Box 3.1). In the UPCC people are asked how good they are at capacities such as ‘estimating future trends’, ‘making realistic plans’, ‘really doing what I planned’, ‘persevering’, ‘devising alternatives if a solution doesn’t work’ and ‘seeking help if things get difficult’. All in all, the items on this scale provide reasonable coverage of the five capacities which are the key issue in this case. The average score on this scale is therefore a good indication of the extent to which people have these mental capacities.

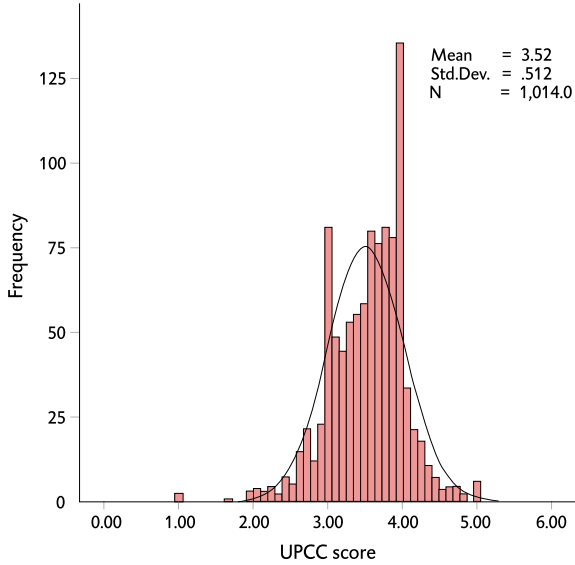
### **Box 3.1 Utrecht Proactive Coping Competences (UPCC)**

How good are you at the following skills [1 not skilled—5 very skilled]

1. Estimating future trends
2. Looking ahead
3. Spotting the first signs if something is about to go wrong
4. Accepting comments made by others
5. Seeing my own possibilities and opportunities
6. Seeing my own limitations
7. Assessing the people around me
8. Clearly formulating what I want to achieve
9. Translating my wishes into plans
10. Making realistic plans
11. Asking other people’s advice
12. Finding solutions
13. Devising alternatives if a solution doesn’t work
14. Really doing what I was planning to do
15. Persevering
16. Seeking help if things get difficult
17. Ascertaining whether I’ve achieved what I wanted to achieve
18. Seeing the positive side of a setback
19. Learning from a setback
20. Reflecting if something goes well
21. Rewarding myself if something is successful.

*Source* Bode, Thoolen and De Ridder<sup>42</sup>

The average score of the respondents for the 21 skills is 3.52 on a scale from 1 to 5.<sup>43</sup> The diagram below shows the distribution. Although the diagram contains two different peaks, the shape is clearly recognisable as a normal distribution.<sup>44</sup> There are considerable differences in the extent to which the Dutch have the mental capacities required to achieve self-reliance. Some people achieve a very high score, others manage a very low score and most people are situated around the average (Fig. 3.3).



**Fig. 3.3** UPCC score

Closer analysis shows that the extent to which someone has the five capacities for self-reliance does to some extent correlate with intelligence and cognitive skills (operationalised as educational level), but it is only a weak correlation.<sup>45</sup> That’s also evident from the Table 3.4, which identifies three groups, namely a group that scores very low on the UPCC scale (and could therefore be categorised as ‘least self-reliant’), a group that scores very high on the UPCC scale (and can therefore be categorised as ‘most self-reliant’) and a large group in the middle. The Table 3.4 clearly shows that a sizeable group of better-educated people can be found among the ‘least self-reliant’ and a substantial group of less well educated people can be found among the ‘most self-reliant’.

**Table 3.4** UPCC score for three groups

|                    | Least self-reliant | Middle group | Most self-reliant |
|--------------------|--------------------|--------------|-------------------|
|                    | N = 187            | N = 654      | N = 173           |
| Average UPCC score | 2.76               | 3.55         | 4.20              |
| Average age        | 47                 | 49           | 48                |
| Sex (%)            |                    |              |                   |
| Male               | 49                 | 48           | 53                |
| Female             | 51                 | 52           | 47                |
| Educational level  |                    |              |                   |
| Low                | 40                 | 22           | 16                |
| Middle             | 36                 | 44           | 38                |
| High               | 24                 | 34           | 46                |
| Total              | 100                | 100          | 100               |

*Determinants of the score on the UPCC scale*

There are therefore more factors at play. In order to gain a better insight into the correlation between non-cognitive characteristics and the UPCC score, we also included a number of standard scales in the survey to measure how people score on the factors in the block at the bottom left of the diagram. To be specific<sup>46</sup>:

- *Avoidance* and *approach temperament* were measured using the scales developed for the purpose by Elliot and Thrash<sup>27</sup>;
- Self-control was measured using the *Brief self-control scale* developed by Tangney<sup>47</sup>;
- Optimism was measured using the LOT-R scale of Carver and Scheier (1994);
- Perceived control was measured using the *Mastery scale* developed by Pearlin and Schooler.<sup>48</sup>

In all cases, a scale running from 1 to 5 was used, a higher score indicating that a person had more of the measured characteristic (for details, see Appendix I). As an additional control variable, we also measured the extent to which people were socially embedded.<sup>49</sup>

Regression analyses were then carried out, with the above non-cognitive characteristics as the independent variable and the UPCC score as the dependent variable. The results are shown in the Table 3.5.

**Table 3.5** Results regression analysis

| N = 1014                          | Model 1  | Model 2   | Model 3   | Model 4  |
|-----------------------------------|----------|-----------|-----------|----------|
| Sex                               | 0.017    | 0.020     | 0.006     | 0.006    |
| Age                               | 0.031    | 0.044     | 0.005     | 0.003    |
| Education (dummy layer vs middle) | 0.168*** | 0.134***  | 0.125***  | 0.112*** |
| Education (dummy layer vs high)   | 0.236*** | 0.182***  | 0.177***  | 0.151*** |
| Social embedding                  | 0.385*** | 0.223***  | 0.179***  | 0.108**  |
| Avoidance (average)               |          | −0.216*** | −0.155*** | −0.101** |
| Approach (average)                |          | 0.393***  | 0.375***  | 0.337*** |
| Self-control                      |          |           | 0.233***  | 0.212*** |
| Optimism                          |          |           |           | 0.117*** |
| Perceived control                 |          |           |           | 0.076*** |
| R2                                | 0.192    | 0.355     | 0.399     | 0.413    |

\* $p < 0.05$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$

The results show the following:

- Educational level correlates significantly with the UPCC score;
- However, *all* non-cognitive characteristics also correlate significantly with the UPCC score. In two cases, their contribution was even greater than educational level;
- By far the most important predictor is *approach temperament*, followed by self-control. Both carry more weight than educational level;

- If the non-cognitive characteristics are added, the explained variance more than doubles;
- There is a certain correlation between social embedding and non-cognitive characteristics, since the contribution of social embedding decreases sharply as more non-cognitive characteristics are added.

In short, these results demonstrate that the non-cognitive characteristics that we have discussed in this chapter do indeed correlate significantly with the five capacities that are the key to self-reliance. Non-cognitive characteristics count.

#### *Two sides of the same coin?*

This type of strong correlation is not infrequently a reason for some scepticism. Are the independent and dependent variables really different concepts? Do they really measure different realities? For example, anyone who tries to ascertain whether the capacity for solving Sudoku puzzles correlates with IQ, will certainly find a strong correlation between the two, but does that really explain anything? The two variables are really very close together and may even be merely two manifestations of the same mental reality. Is something similar going on in this case?

It seems so. Obviously, anyone with a high score in approach temperament, and who therefore tends not to avoid new stimuli but to approach them, will also achieve a high score in the UPCC skills ‘looking ahead’ and ‘finding solutions’. It is also obvious that anyone with a high score on the self-control scale will also achieve a high score in the UPCC skills ‘really doing what I was planning to do’ and ‘persevering’. That is the case, almost by definition.

Our conclusion is therefore that there is no clear distinction between, on the one hand, the non-cognitive concepts in the literature that were the focus of this chapter and, on the other hand, the mental capacities for self-reliance in Chap. 2. In a certain sense, it is a question of two different perspectives on the same mental reality and two different vocabularies for describing it. One vocabulary is that of the general psychological theories and research programmes of the past few decades and the other vocabulary is that of the real world in which the question is about what people have to be able to do in order to make their way in life. One describes people in terms of psychological characteristics and the other in terms of capacities.

### **3.4 Conclusion: Different Prospects of Self-reliance**

This chapter has been focusing on the non-cognitive determinants of the mental capacities that are the key to self-reliance. We will go through them again.

#### *Approach and avoidance temperament*

First, there is a correlation with avoidance and approach temperament. These two temperaments are sensitivities to and orientations towards approaching positive stim-

uli (e.g. reward) and avoiding negative stimuli (e.g. punishment) respectively. They correlate strongly with the *Big Five* characteristics of extraversion and neuroticism respectively. Based on the available research it is possible to predict that people with an approach temperament will be more inclined to face and tackle ‘stressors’, whereas people with an avoidance temperament will be more inclined to deny and avoid ‘stressors’. In our own survey, we see a correlation between the two temperaments and the UPCC score.

To be perfectly clear: it is not the case that one temperament is by definition good and the other is by definition bad. Every parent knows that you have ‘easy’ and ‘difficult’ children, but what counts as easy and difficult is also determined by their environment. A child who is shy, hesitant and sensitive will fit in better in a peaceful, calm and low-stimulus family than in a busy family with extrovert and assertive family members, a fast pace of life and a lot of stimuli. The determining criterion is the ‘goodness of fit’ of the temperament.<sup>50</sup> The same applies to adults. Some people have a temperament that fits in well with the expectations and requirements of the current education system, the labour market and society in general, others less so. The more society expects people to be self-reliant and to tackle their problems proactively, thereby exhibiting a certain degree of perseverance and assertiveness, the more difficult it will be for someone with an avoidance temperament.

### *Self-control*

Second, there is a correlation with the capacity for self-control. That is “the capacity to alter or override dominant response tendencies and to regulate behaviour, thoughts, and emotions”.<sup>51</sup> There is a considerable overlap with what is described in the *Big Five* as conscientiousness. Good self-control or conscientiousness is associated with all kinds of positive outcomes, such as better academic and job performance, better health and well-being and problem-focused coping. In our own study, there is a significant correlation with the UPCC.

Is a greater capacity for self-control always better? Opinions differ on this point.<sup>52</sup> At least one thing is clear. The more society requires people not to give in to any kind of temptation, but to think ahead and take all kinds of measures now to prevent possible problems later, the more important a good capacity for self-control is to achieve self-reliance.

### *Beliefs*

Third, there is a correlation with beliefs. One person is an optimist and thinks that everything will turn out fine, whereas another assumes the worst from the outset. One person has great confidence in their own ability and tackles problems immediately, whereas another feels powerless and lapses into passivity. Once again, we see a significant correlation with the UPCC in our own study.

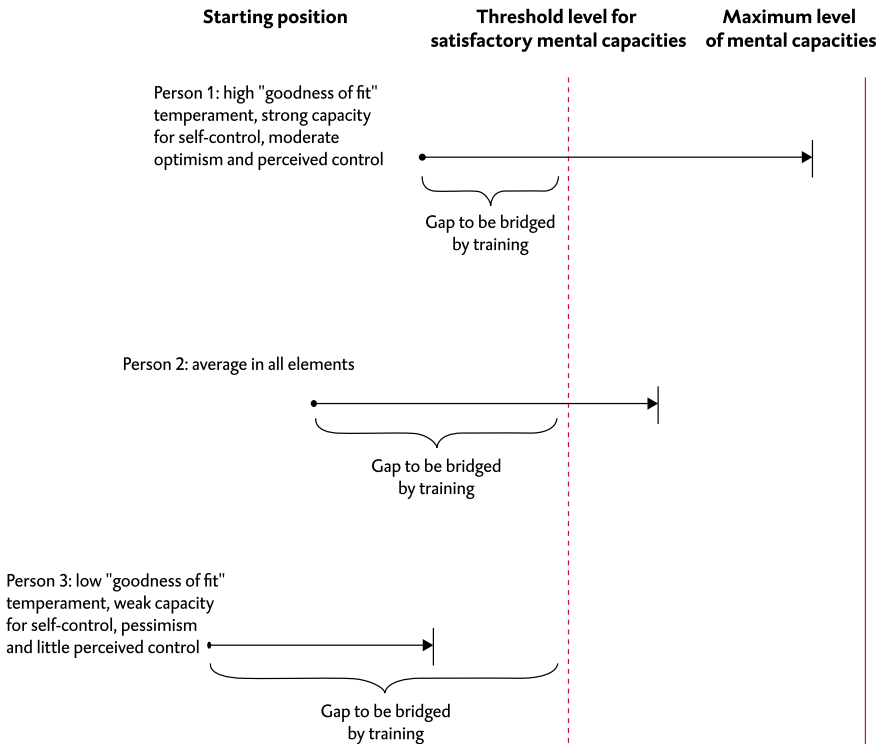
Here it is clear that more is not always better. An excess of optimism and confidence can be counter-productive, i.e. if it leads to people not facing problems or denying them. A person who smokes, drinks too much or gambles a lot but is convinced he 'can stop any time he wants' may sooner or later be faced with unpleasant surprises. The same applies to people who brush persistent physical complaints or financial problems aside in the belief that 'everything will work out fine'. As far as self-reliance is concerned, it may be best if there is reasonable optimism and perceived control, so that people have the courage to tackle problems, but combined with a firm grip on reality.

#### *Different prospects of desirable outcomes*

All of the above leads to an important conclusion, namely that one person is given better prospects for self-reliance than another by predisposition. After all, it is not only intelligence that has a hereditary component, this is also true of personality traits. As stated above, personality traits are estimated to be 40–50% hereditary. Some people therefore come into the world with a relatively strong predisposition to develop the characteristics which are fitting for a society that attaches great importance to self-reliance, whereas others come into the world with a relatively weak predisposition in this direction.

To be perfectly clear, this definitely does not mean that people are entirely predestined by their genes and no influence or adjustment is possible. Genes are the starter pack with which a child starts life but there is no saying how that pack will then be expressed or indeed what the possible effects of practice will be. For example, musical talent is undoubtedly genetically influenced but somebody with little talent and a lot of practice will probably become a better pianist than someone with a lot of talent and little practice. Moreover, it will certainly make a difference if the person's parents are music lovers or even professional musicians or there are music groups or concert halls in the neighbourhood or music lessons are subsidised by the government, or not, etc. However, none of this detracts from the fact that one person will, by nature, find it easier to learn to play the piano than the other.

How can we now translate this into self-reliance? Say there is a threshold value for the minimum level of mental capacities required to be able to make one's way in life without constantly asking for help. Because it is partly determined by heredity whether, at the start of life, one has a good basis for developing the required mental capacities, one person will have a wider gap to bridge than another in order to cross that threshold. Figure 3.4 shows three possible cases.



**Fig. 3.4** Bridge to cross

The first person has drawn a lucky ticket in nature's lottery. This person only has a small gap to bridge to cross the threshold and also has the baggage to be able to go well beyond it. The second person is average. This person has to bridge a somewhat wider gap and will also not go so far, but does have sufficient means to cross the threshold of enough capacities. However, the third person is unlucky. In order to cross the threshold, this person will have to bridge a wider gap than is within their abilities.

In conclusion: not one but two parameters are relevant when considering which government policy is suitable. It is not only a question of the extent to which the capacities concerned can be improved through training, it is also the gap that a person has to bridge to achieve the desired level of self-reliance.



## Endnotes

1. McCrae, R. R., & Costa, P. T., Jr. (1999).
2. Carver, C. S., & Scheier, M. F. (2014).
3. Carver, C. S., & Scheier, M. F. (2011).
4. Eysenck, H. J., & Eysenck, S. B. (1967).
5. Eysenck, H. J. (1981).
6. Watson, D., & Tellegen, A. (1985).
7. Watson et al. (1988) build on this, once again using different terms—they refer to the third factor as *disinhibition*.
8. Rothbart, M. K. (2011, see also p. 57).
9. Simonds, J., Kieras, J. E., Rueda, M. R., & Rothbart, M. K. (2007).
10. Bouchard, T. J., Jr., & Loehlin, J. C. (2001, see also p. 243).
11. Bouchard, T. J. (2004).
12. Rebollo, I., & Harris, J. R. (2008).
13. Vukasović, T., & Bratko, D. (2015).
14. Caspi, A., Harrington, H., Milne, B., Amell, J. W., Theodore, R. F., & Moffitt, T. E. (2003).
15. This is someone's position on a personality trait compared with that of their contemporaries on that personality trait.
16. Roberts, B. W., Walton, K. E., & Viechtbauer, W. (2006).
17. Roberts, B. W., & DelVecchio, W. F. (2000).
18. Much of his research is cross-sectional, which means that it only shows correlations and not causality. However, it is highly plausible that in many cases personality traits do have a causal effect on the life outcomes concerned. After all, many of these traits manifest themselves at an early age and change slowly, if at all, afterwards.
19. In meta-analyses, the research results are usually translated into and summarised in the terminology of the *Big Five*. We have not therefore done the translation ourselves, but have taken it from these analyses.
20. Kern, M. L., & Friedman, H. S. (2008, see also p. 505).
21. Poropat, A. E. (2009).
22. Barrick, M. R., & Mount, M. K. (1991).
23. Barrick, M. R., Mount, M. K., & Judge, T. A. (2001).
24. Connor-Smith, J. K., & Flachsbart, C. (2007).
25. Carver, C. S., Scheier, M. F., & Segerstrom, S. C. (2010, see also p. 880).
26. Elliot, A. J., & Thrash, T. M. (2002).
27. Elliot, A. J., & Thrash, T. M. (2010, see also p. 894).
28. They also involve BIS and BAS, which are not discussed in this study.
29. Also referred to as 'trait self-control', see De Ridder et al. (2012).
30. de Ridder, D. T., Lensvelt-Mulders, G., Finkenauer, C., Stok, F. M., & Baumeister, R. F. (2012, see also p. 77).
31. Baumeister, R. F., Vohs, K. D., & Tice, D. M. (2007, see also p. 1).

32. Carver, C. S., & Scheier, M. F. (2011).
33. Baumeister, R. F., Campbell, J. D., Krueger, J. I., & Vohs, K. D. (2003, see also p. 37).
34. Seligman, M. E. (2011).
35. Scheier, M. F., & Carver, C. S. (1985).
36. Carver, C. S., & Scheier, M. F. (2014).
37. Solberg Nes, L., & Segerstrom, S. C. (2006).
38. Skinner, E. A. (1996).
39. Thompson, S. C., & Schlehofer, M. M. (2008, see also p. 1).
40. Thompson, S. C., & Spacapan, S. (1991).
41. After weighting, the sample was representative in terms of sex, age, size of household, education, social class and region (see Appendix I).
42. Bode, C., Thoolen, B., & de Ridder, D. (2008).
43. Cronbach's alpha is 0.93 and the first factor has an eigenvalue of over nine and accounts for almost 43% of the variance. The second and third factor have an eigenvalue of 1.55 and 1.17 respectively and together take the variance to over 50%. This once again confirms the findings of Bode et al. (2008). Strictly speaking, this is not a one-dimensional but a two-dimensional solution, but it is clearly one factor that stands out above all the rest. We therefore regard this factor as 'self-reliance'.
44. According to the Kolmogorov-Smirnov test and the Shapiro-Wilk test, there is no normal distribution. The peaks at the 3 and 4 score appear to be the main explanation for this. They may (partly) be an artefact of the question asked. The 21 skills were presented relatively late in the survey, so it is possible that some of the respondents no longer felt like really thinking about the questions and consequently placed a cross at the middle category. That would at all events account for the peak at the 3 score. It was found that 39 respondents had indeed consistently opted for the middle option. It is less clear why the 4 score also has a peak. This could possibly be explained using the same principle: people were no longer really thinking about all the individual skills and felt that the 4 score 'skilled' was the most attractive option. It was found that 37 respondents had indeed consistently opted for the 'skilled' score. (By way of comparison, the number of respondents who consistently opted for the 1, 2 and 5 category is 2, 4 and 2 respectively.)
45. Pearson correlation = 0.212 ( $p < 0.000$ ). Educational level was measured according to the Statistics Netherlands classification in seven levels.
46. Of course, a Dutch translation was used in all cases.
47. Tangney, J. P., Baumeister, R. F., & Boone, A. L. (2004).
48. Pearlman, L. I., & Schooler, C. (1978).
49. The loneliness scale developed by Van Tilburg and De Jong Giersveld (2007) was used.
50. Chess, S., & Thomas, A. (1999).

51. de Ridder, D. T., Lensvelt-Mulders, G., Finkenauer, C., Stok, F. M., & Baumeister, R. F. (2012, see also p. 77).
52. See, for example, the study by Koole et al. (2014).

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