Focussing on overexcitabilities: Studies with intellectually gifted and academically talented adults

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ABSTRACT

The concept of “overexcitability” has recently become popular within the field of giftedness and talent research. Some authors argue that overexcitability questionnaires can be used to identify gifted/talented individuals. A sample of intellectually gifted adults (n = 96; mean age: 31.4; SD = 0.3) was compared to a sample of adults of average intelligence (n = 91; mean age: 31.4; SD = 0.4). Additionally, a sample of 123 high achievers (mean age = 30.5; SD = 0.3) was compared to 97 average achievers (mean age: 30.5; SD = 0.3). The “Overexcitability Questionnaire-Two” was used to assess emotional, imaginative, intellectual, psychomotor, and sensual overexcitability. The gifted adults scored statistically significantly higher on “intellectual overexcitability” (d = .42). High and average achievers differed statistically significantly in “intellectual overexcitability” (d = .56) and “sensual overexcitability” (d = .32). For the giftedness sample, the accuracy of group membership prediction (gifted/non-gifted) via discriminant analyses was 60.4%. For the performance sample, the accuracy was 63.4%. The observed differences in the overexcitabilities were small; the risk of misclassification is too big to attempt to identify gifted or high achieving adults solely on the basis of overexcitability scores.

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1. Introduction

The term “overexcitability” was introduced by the psychiatrist Dabrowski (1964, 1970) within the scope of his developmentally oriented “Theory of Positive Disintegration” (TPD; see Mendaglio, 2010; Mendaglio & Tillier, 2006). “Overexcitability” focuses on a supersensitivity or over-reaction to external as well as internal stimuli. Piechowski, Silverman, and Falk (1985, p. 540) described overexcitability as an “enhanced and intensified mental activity distinguished by characteristic forms of expression which are above common and average”. Dabrowski distinguished five overexcitabilities: (1) psychomotor (high level of energy and physical activity), (2) sensual (enriched sensory experience), (3) imaginative (rich associations of images and impressions), (4) emotional (high intensity of feelings), and (5) intellectual (avid pursuit of knowledge and of theoretical analyses). Dabrowski assumed that strong psychic reactions (i.e. the overexcitabilities) are very relevant for reaching higher levels of emotional and moral development. The overall “developmental potential” of a person (an important term of the TPD) is composed of the above mentioned five overexcitabilities as well as of specific talents and abilities, and of intelligence.

It is assumed that talented people have a “heightened intensity of experience” (Piechowski et al., 1985, p. 539) and unique (personality) characteristics. In this context, several authors (e.g., Piechowski, 1975; Piechowski & Colangelo, 1984; Silverman, 1993) applied the TPD to the field of giftedness and talent research (for an overview see Mendaglio & Tillier, 2006). It is speculated that the overexcitabilities “represent the kind of endowment that feeds, nourishes, enriches, empowers and amplifies talent” (Piechowski & Colangelo, 1984, p. 87). Because gifted or talented individuals possess a higher developmental potential, Piechowski and Colangelo presume that the talented are more susceptible to the overexcitabilities and hence, have higher overexcitabilities compared to other (less talented) individuals. Moreover, it is assumed that the instruments assessing overexcitabilities could be used to identify gifted or talented individuals (Ackerman & Paulus, 1997; Bouchard, 2004; Mendaglio, 2010).

There are numerous conceptions of (intellectual) “giftedness” (see Sternberg & Davidson, 2005). Some authors advocate multidimensional models (e.g., Gagné, 2005; Renzulli, 2005). Other approaches define intellectual giftedness in terms of high general intelligence g (Rost, 2009a; Roznowski, Reith, & Hong, 2000; Terman, 1925). Theoretical reasons (e.g., strong associations of intelligence with academic achievement: Deary, Strand, Smith, & Fernandez, 2007; occupational success: Schmidt & Hunter, 1998;
and success in life: Gottfredson, 2002) as well as psychometric aspects (e.g., Robinson, 2005; Rost, 2009a) argue in favor of the conceptualization of intellectual giftedness as a high level of intelligence according to Spearman’s g (1927). In the present study we therefore adopted the definition of “intellectual giftedness” as being characterized by a high level of g (cf. Jensen, 1998), following for example Roznowski et al. (2000) and Thompson and Oehlert (2010).

Within the overexcitability research not only intellectually gifted individuals have been examined, but also groups with different talents, abilities or achievements (for example artists or academically high achieving individuals; see e.g., Falk, Manzanero, & Miller, 1997; Piechowski et al., 1985; Piirto, Montgomery, & May, 2008). Below we briefly summarize several findings regarding the overexcitabilities with an emphasis on intellectually gifted or academically high achieving samples. Ackerman and Paulus (1997) found higher scores in all five overexcitability-scales for gifted senior high school students (n = 42; IQ > 120), compared to a non-gifted group (n = 37; psychomotor: d = 0.99; intellectual: d = 0.69; imaginational: d = 0.65; emotional: d = 0.51; sensual: d = 0.31). The gifted students were identified by assessing academic achievement, intellectual ability, creativity and task commitment. A discriminant analysis, based on the psychomotor, intellectual, and emotional overexcitability scores correctly classified 76.2% of the gifted and 64.9% of the non-gifted. Yakmaci-Guzel and Akarsu (2006) found statistically significant differences for “imaginational” (d = 0.63) and “intellectual overexcitability” (d = 0.93) in favor of n = 35 Turkish 10th graders with a high IQ compared to n = 37 students with a low intellectual ability (for similar results cf. Tieso, 2007a). Bouchet and Falk (2001) compared n = 142 undergraduate college students who had attended a class for gifted students or a program for the gifted at school with n = 131 students who had been assigned to an advanced placement or did not participate in any special program or course at all (n = 288). The “gifted” students scored only slightly higher in “emotional” (d = 0.20) as well as in “intellectual overexcitability” (d = 0.28). Miller, Silverman, and Falk (1994) discovered higher overexcitability scores in “emotional” and “intellectual overexcitability” as well, investigated in an adult sample (see also Piechowski & Colangelo, 1984). Piechowski et al. (1985) listed statistically significant differences between n = 37 intellectually gifted adults (who were members of a gifted association or displayed a high achievement or IQ or former placement in a gifted class) and n = 42 graduate students for emotional (d = 0.60), imaginational (d = 0.72), and intellectual (d = 0.91) overexcitabilities.

The mentioned studies suffer from several shortcomings: the definitions of giftedness were often imprecise and even heterogeneous within the same study. Some samples were identified via intelligence tests, whereas others were selected using grades, and/or achievement tests, and/or teacher nominations, and/or membership in associations for gifted individuals. Gifted individuals were often preselected (e.g., students attending a special gifted class or a gifted program, cf., Bouchet & Falk, 2001; Gross, Rinn, & Jamieson, 2007; Piechowski & Miller, 1995; Piirto et al., 2008; Tieso, 2007b). In some cases, the sample sizes were small (e.g., Piechowski & Miller, 1995; Piechowski et al., 1985). Many studies lacked adequate (non-gifted) control groups (e.g., Gross et al., 2007; Lewis & Kitano, 1992; Piirto et al., 2008). The heterogeneous results are probably also due to the different instruments used for assessing overexcitabilities (see Mendaglio, 2010). In sum, however, there is evidence that gifted/talented/high achieving individuals display somehow higher scores in intellectual overexcitability, and—less frequently—in emotional and imaginative overexcitability. Our study aimed to shed some light on the overexcitabilities of adults who differ in intelligence or achievement. Intellectually gifted adults on the one hand and high achieving adults on the other hand should be analyzed separately because intelligence and academic achievement just show a medium correlation (e.g., Rohde & Thompson, 2007). Some authors suggest using overexcitability scales as an alternative assessment technique for identifying gifted or talented individuals (Mendaglio, 2010). Taking the rather heterogeneous results into consideration, we also aim to find out whether overexcitabilities are effective to identify intellectually gifted or high achieving adults.

2. Method

2.1. Sample

The following analyses were based on data collected within the scope of the Marburg Giftedness Project (Rost, 1993, 2009b), a longitudinal study that defined intellectual giftedness in terms of high general intelligence g. A nationwide (West) German sample of N = 7023 third graders was tested in 1987/1988 with three well-established standardized intelligence tests. Two groups of students were formed: intellectually gifted (target group) and non-gifted students (control group). The students were selected by a combination of the three intelligence tests, weighted according to their g saturation. The control group of average-intelligence students was formed to match the target group as far as possible on potential nuisance variables (individual matching regarding gender, social background, school, and class; see Rost, 1993, 2009a, for details).

Six years later, in 1994, the two samples—now ninth graders with a mean age of 15.3 years—were again tested (response rates: 100% for the target group; 97% for the control group) with three analogous intelligence tests: (a) a combination of a number series assessing numerical reasoning (Amthauer, 1970; rtt = .92) and a series of graphic symbols measuring non-verbal reasoning (Horn, 1983; rtt = .82); (b) verbal analogies (Amthauer, 1970; rtt = .63) which measures mainly verbal reasoning; and (c) the ZVT (Oswald & Roth, 1987; rtt = .86), a test of information processing speed. General intelligence g was defined in the same way as at elementary school age (loadings on the first unrotated principal component: number series/graphical symbols: a = .86; analogies: a = .70; ZVT: a = .69).

To account for the phenomenon of rising IQ scores over time (“Flynn effect”; Flynn, 1987), we simultaneously tested an independent sample of N = 919 ninth grade students in order to obtain actual norms. We defined the members of the original target group (third graders) as intellectually gifted if they achieved an IQ > 125 6 years later. Seventy one percent (n = 107) of the target group fulfilled this criterion, corresponding to a test–retest reliability of rtt = .85 (Hanses, 2009). An equally sized control group of average-intelligence students (n = 107; mean IQ = 102) was drawn from the comparison group (see Table 1).

In giftedness research, it is a frequent practice to analyze individuals with a high achievement instead of individuals with a high IQ. Because the correlation of intelligence and scholastic achievement seldom exceeds r = .50, an additional sample was recruited in 1994 according to their grade point average (GPA; “performance sample”). k = 86 grammar schools participated. The group of “high achievers” (attending the ninth grade; n = 134) were selected by teacher nominations based on the GPA of the last school report (grades between 1.0 and 1.4; subjects: German, Mathematics, Foreign Languages, Physics or Chemistry). The students of the comparison group (“average achievers”; n = 122) were also selected according to their GPA. The comparison group was parallelized.

\footnote{German grading system: 1 = excellent; 2 = good; 3 = satisfactory; 4 = adequate; 5 = inadequate, 6 = insufficient.}
Table 1
Samples of the Marburg Giftedness Project.

<table>
<thead>
<tr>
<th>Year</th>
<th>Gifted</th>
<th>Non-gifted</th>
<th>High achiever</th>
<th>Average achiever</th>
</tr>
</thead>
<tbody>
<tr>
<td>1987/1988</td>
<td>151</td>
<td>136</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>65 (43%)</td>
<td>58 (43%)</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>IQ</td>
<td>135 (5.9)</td>
<td>102 (6.3)</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Mean age</td>
<td>9.2 (0.4)</td>
<td>9.2 (0.5)</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>GPA</td>
<td>1.7 (0.5)</td>
<td>2.4 (0.6)</td>
<td>-</td>
</tr>
<tr>
<td>1994/1995</td>
<td>N</td>
<td>107</td>
<td>107</td>
<td>134</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>62 (60%)</td>
<td>47 (44%)</td>
<td>79 (59%)</td>
</tr>
<tr>
<td></td>
<td>IQ</td>
<td>136 (8.4)</td>
<td>102 (9.6)</td>
<td>117 (11.5)</td>
</tr>
<tr>
<td></td>
<td>Mean age</td>
<td>15.3 (0.3)</td>
<td>15.3 (0.5)</td>
<td>15.4 (0.3)</td>
</tr>
<tr>
<td></td>
<td>GPA</td>
<td>2.4 (0.7)</td>
<td>3.2 (0.7)</td>
<td>1.4 (0.3)</td>
</tr>
<tr>
<td>2009/2010</td>
<td>N</td>
<td>96</td>
<td>91</td>
<td>123</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>42 (44%)</td>
<td>43 (47%)</td>
<td>73 (59%)</td>
</tr>
<tr>
<td></td>
<td>IQ grade 3 (SD)</td>
<td>136 (5.9)</td>
<td>102 (6.0)</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>IQ grade 9 (SD)</td>
<td>136 (8.3)</td>
<td>103 (9.2)</td>
<td>117 (11.9)</td>
</tr>
<tr>
<td></td>
<td>Mean age</td>
<td>31.4 (0.3)</td>
<td>31.4 (0.4)</td>
<td>30.5 (0.3)</td>
</tr>
<tr>
<td></td>
<td>GPA grade 9 (SD)</td>
<td>2.4 (0.7)</td>
<td>3.1 (0.7)</td>
<td>1.4 (0.3)</td>
</tr>
<tr>
<td></td>
<td>GPA grade 13 (SD)*</td>
<td>2.1 (0.6)</td>
<td>2.5 (0.6)</td>
<td>1.4 (0.3)</td>
</tr>
</tbody>
</table>

Notes. N = Sample size; IQ = mean IQ; SD = standard deviation IQ; GPA = grade point average (subjects: Mathematics, German, Foreign languages, Physics or Chemistry).
* Not all participants accomplished the leaving examination (“Abitur”) of the German secondary school (“Gymnasium”; gifted: n = 87; non-gifted: n = 53; high achiever: n = 123; average achiever: n = 69).

2.2. Measures

The overexcitabilities were assessed with the Overexcitability Questionnaire-Two (OEQI; Falk, Lind, Miller, Piechowski, & Silverman, 1999). This instrument consists of five scales: “psychomotor” (item example: “I love to be in motion”; reliability according to Falk et al.: α = .86), “sensual” (“I get great joy from the artwork of others”; α = .89), “imaginational” (“I like to daydream”; α = .85), “intellectual” (“I love to solve problems and develop new concepts”; α = .89) and “emotional” (“I feel other people’s feelings”; α = .84). In the original instrument each scale contains 10 items. We eliminated one item of the scale “imaginational”, because it was not appropriate for adults (“I believe that dolls, stuffed animals, or the character in books are alive and have feelings”). The responses were given using a five-point scale ranging from “not at all like me” to “very much like me”. In addition, the occupational status was inquired.

2.3. Statistical analyses

Two one-way MANOVAs were run (dependent variables: overexcitabilities; grouping variables: intellectual giftedness [MANOVA I: gifted vs. non-gifted] or performance [MANOVA II: high achiever vs. average achiever]). In case of a statistically significant MANOVA (p < .05) univariate follow-up ANOVAs were run. Taking into account the sample size and the few research results concerning adults, we intentionally decided against an alpha-adjustment in order to reduce the β-error. The effect sizes η²_{mult} and d (using the pooled standard deviations) are reported. Following Cohen (1988), we interpret η²_{mult} > .01 and d > .20 as a small effect, η²_{mult} > .06 and d > .50 as a medium sized effect, and η²_{mult} > .14 and d > .80 as a large effect.

For the sake of better interpretation, two discriminant analyses (DISCANA I: gifted/non-gifted; DISCANA II: high achiever/average achiever) were run using the five overexcitability scales as predictors of group membership. For this purpose each of the two samples was randomly divided into two equal sub-samples. The first of these sub-samples were used to calculate the discriminant function coefficients (a descriptive DISCANA for each group). These weights were in turn used to predict group-membership of the other two sub-groups (a predictive DISCANA for each group).

3. Results

The intercorrelations of the five scales ranged from r = .05 (scales: imaginational/psychomotor) to r = .51 (emotional/imagi-
national and emotional/sensual) in the gifted sample and from r = .05 (sensual/psychomotor) to r = .46 (imaginational/emotional) in the performance sample (see Table 3).

The resulting psychometric properties (means, standard deviations, Cronbach’s alpha) of the overexcitability scales are displayed in Table 4. The internal consistencies were satisfactory, ranging from α = .80 (scale “imaginational”) to α = .89 (“sensual”).

The one-way MANOVAs were statistically significant for the gifted sample, F(5, 179) = 3.90, p < .01; η²multi = .10 as well as for the performance sample, F(5, 213) = 7.93, p < .01; η²multi = .16. η²multi Indicated a medium effect (gifted sample) respectively a large effect (performance sample).

According to the univariate follow-up ANOVAs, the gifted group scored higher in intellectual overexcitability than the non-gifted group (p = .01; d = .42; small effect, see Table 4). Compared to average achievers, the high achievers outmatched the average achievers in “intellectual overexcitability” (p < .01; d = .56; medium effect) as well as in “sensual overexcitability” (p = .02; d = .32; small effect).

The discriminant analysis revealed a statistically significant discriminant function for the performance sample (λ = .77, λ² = 30.41, df = 5, p < .01), but not for the gifted sample (λ = .89, λ² = 10.09, df = 5, p = .07). In both samples, the highest discriminant function coefficient is provided by “intellectual overexcitability” (see Table 5). For the giftedness sample, the accuracy of the group membership prediction was 62.8% (descriptive DISCANA) and 60.4% (predictive DISCANA). For the performance sample, the accuracy was 68.6% (descriptive DISCANA); for the predictive DISCANA the accuracy of the group membership prediction was 63.4%.

4. Discussion

Within the scope of the “Marburg Giftedness Project” (Rost, 2009b) intellectually gifted and average-intelligent adults as well as high achieving and average achieving adults were assessed. Giftedness was defined in childhood as well as in adolescence according to Spearman’s g, operationalized via component scores (unrotated first principal component, based on three intelligence tests). Academic achievement was assessed in adolescence using GPA.

In four of the five overexcitability scales (emotional, imaginational, psychomotor, sensual) of the Overexcitability Questionnaire-Two (OEQII; Falk et al., 1999), there were only small and no statistically significant differences between gifted and non-gifted adults. A statistically significant result only emerged in “intellectual overexcitability” in favor of the gifted (d = .42). Our findings are in accordance with the results of other related studies (see the summary of Mendaglio & Tillier, 2006; gifted individuals often display higher scores in “intellectual overexcitability”). A closer look at the items of the “intellectual overexcitability” scale makes plain that the content of the items centers on a combination of self-assessment of problem solving ability as well as on the affective facets of person’s self-concept of general intellectual ability.

Table 3

<table>
<thead>
<tr>
<th>(1) Emotional OE</th>
<th>(2) Imaginational OE</th>
<th>(3) Intellectual OE</th>
<th>(4) Psychomotor OE</th>
<th>(5) Sensual OE</th>
</tr>
</thead>
<tbody>
<tr>
<td>.51*</td>
<td>.12</td>
<td>.48*</td>
<td>.22*</td>
<td>.05</td>
</tr>
<tr>
<td>.63*</td>
<td>.08</td>
<td>.13*</td>
<td>.22*</td>
<td>.24*</td>
</tr>
<tr>
<td>.45*</td>
<td>.11</td>
<td>.26*</td>
<td>.16*</td>
<td>.05</td>
</tr>
</tbody>
</table>

*p < .05.

Table 4

<table>
<thead>
<tr>
<th>Giftedness sample</th>
<th>Emotional OE M/SD</th>
<th>Imaginational OE M/SD</th>
<th>Intellectual OE M/SD</th>
<th>Psychomotor OE M/SD</th>
<th>Sensual OE M/SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>High IQ</td>
<td>3.29/0.80</td>
<td>2.58/0.63</td>
<td>3.93/0.60</td>
<td>3.16/0.69</td>
<td>3.43/0.83</td>
</tr>
<tr>
<td>Average IQ</td>
<td>3.44/0.63</td>
<td>2.58/0.78</td>
<td>3.67/0.65</td>
<td>3.31/0.70</td>
<td>3.21/0.72</td>
</tr>
<tr>
<td>Cronbach’s α</td>
<td>.85</td>
<td>.80</td>
<td>.87</td>
<td>.84</td>
<td>.89</td>
</tr>
<tr>
<td>p</td>
<td>.13</td>
<td>.99</td>
<td>.01</td>
<td>.13</td>
<td>.30</td>
</tr>
<tr>
<td>η²</td>
<td>.01</td>
<td>&lt;.01</td>
<td>.04</td>
<td>.01</td>
<td>.01</td>
</tr>
<tr>
<td>d</td>
<td>-.21</td>
<td>.00</td>
<td>.42</td>
<td>-.22</td>
<td>.15</td>
</tr>
<tr>
<td>Performance sample</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High achiever</td>
<td>3.31/0.70</td>
<td>2.43/0.63</td>
<td>3.93/0.58</td>
<td>3.11/0.62</td>
<td>3.41/0.67</td>
</tr>
<tr>
<td>Average achiever</td>
<td>3.38/0.73</td>
<td>2.55/0.65</td>
<td>3.60/0.56</td>
<td>3.26/0.63</td>
<td>3.10/0.69</td>
</tr>
<tr>
<td>Cronbach’s α</td>
<td>.85</td>
<td>.80</td>
<td>.86</td>
<td>.82</td>
<td>.86</td>
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<tr>
<td>p</td>
<td>.45</td>
<td>.16</td>
<td>&lt;.01</td>
<td>.08</td>
<td>.02</td>
</tr>
<tr>
<td>η²</td>
<td>&lt;.01</td>
<td>.01</td>
<td>.08</td>
<td>.01</td>
<td>.03</td>
</tr>
<tr>
<td>d</td>
<td>-.10</td>
<td>-.19</td>
<td>.56</td>
<td>-.24</td>
<td>.32</td>
</tr>
</tbody>
</table>

Table 5

<table>
<thead>
<tr>
<th>Sample</th>
<th>Emotional OE</th>
<th>Imaginational OE</th>
<th>Intellectual OE</th>
<th>Psychomotor OE</th>
<th>Sensual OE</th>
</tr>
</thead>
<tbody>
<tr>
<td>GS</td>
<td>-.56</td>
<td>-.19</td>
<td>.69</td>
<td>-.38</td>
<td>.58</td>
</tr>
<tr>
<td>PS</td>
<td>-.09</td>
<td>-.43</td>
<td>.84</td>
<td>-.63</td>
<td>.31</td>
</tr>
</tbody>
</table>
(e.g., “I love to solve problems and develop new concepts”; “I can take difficult concepts and translate them into something more understandable”). As a rule gifted adults frequently notice that they possess a higher intellectual capacity and thus develop a higher self concept of general intellectual ability. Contrary to other findings, the giftedness sample scored slightly lower in “emotional overexcitability” \( (d = -2.21) \) as well as in “psychomotor overexcitability” \( (d = -2.22) \). In the performance sample, the high achievers also reported a higher “intellectual overexcitability” \( (d = .56) \). For an explanation, it should be taken into account that intelligence and achievement are considerably correlated \( (r \approx .50) \). Additionally, the high achievers also scored higher in “sensual overexcitability” \( (d = .32) \). This scale comprises items such as “I get great joy from the artwork of others” or “I enjoy the sensations of colors, shapes, and designs”. Our data do not allow a sound explanation of the observed higher “sensual overexcitability”. However, the high achievers displayed a lower “psychomotor overexcitability” \( (d = -2.24) \) than the average achievers.

Based on the predictive DISCANA of the giftedness sample, 79.1% of the gifted but only 43.8% of the non-gifted adults could be classified correctly. In total, this is a correct classification of 60.4%. As the giftedness sample was comprised of 53.3% gifted individuals, the predictive DISCANA improved the predictive power by only 5.1%. In the performance sample the predictive DISCANA allows for a correct classification in 63.4% of cases (high achievers: 73.2%; average achievers: 51.1%). Here, too, the DISCANA only improves the predictive power by a mere 7.9%.

In sum, the observed differences in the five overexcitability scales were small. Although the differences between the groups were statistically significant concerning “intellectual overexcitability” in the giftedness sample and “intellectual” and “sensual overexcitability” in the performance sample, any use of the OEQII with the goal of identifying intellectually gifted or high achieving adults should be refrained from. The amount of misclassifications (predictive DISCANA) in the non-gifted (56.3%) as well as the average achieving group (48.9%) is unacceptably high.

The main strengths of our study are an unselected sample of gifted and high achieving adults and a psychometrically sound definition of giftedness. However, there are some restrictions: First, the results are limited to a German sample of 30–31 year olds. It is possible that different results could be obtained from younger or older adults. Second, our subjects participated in a longitudinal study. However, the participants have still not been informed about their IQs or group membership. Third, our findings may be specific for the employed operationalization of the overexcitabilities (OEQII). Further research should aim at figuring out whether these results can be replicated using different assessment methods for overexcitabilities. Fourth, it should be kept in mind that our findings are based on non-labeled samples. Differences in previous research findings could be explainable by research-subjects knowing their intellectual status (i.e. being classified as gifted or of average intelligence) and thereby answering corresponding questions differently. Fifth, our operationalization of giftedness relied on general intelligence g. Other definitions of giftedness may produce different results.

To sum up our findings: The overexcitabilities, as measured with the OEQII may not be suitable to identify intellectually gifted or high achieving individuals. Further research is needed to shed some light on the validity of the concept of overexcitability in the field of giftedness research.

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