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Analysis of the emotion of fear in gifted children and its use in teaching practice

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Abstract

This article presents an analysis of fear in gifted children of younger school age in comparison with the control group of children. The tool used for the research was a questionnaire with statements about fear, with the intensity of selected types of fear evaluated. The questionnaire was subject to a factor analysis, which resulted in 5 areas of fear. At the level of the individual factors we determined that fear in gifted children is less intense than fear in children from the normal population, although no difference was found in the hierarchy of fear. We also found that gifted children are most afraid of global problems. Within the group of gifted children we observed differences between the sexes, while boys declared lower levels of fear than girls, in the factors My family and Phobias. The conclusion contains recommendations as to how to work with fear amongst gifted children in teaching practice.

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Keywords: Gifted child; fear; characteristics of gifted children; fear questionnaire; factor analysis.

1. Introduction and theoretical bases

Fear is our natural companion throughout our lives. It is one of the basic human emotions and acts as a natural corrector which warns us against dangerous situations that could harm or, in extreme cases, kill us. Fear arises in

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situations that are important for the individual. The individual responds to such situations with certain changes in conduct and behaviour. These reactions to life's problems may give the individual advantages, such as the mobilisation of mental and physical powers, but may also cause unreasonable reactions such as depression, apathy or, on the other hand, agitation, panic or hyperactivity. As a result of targeted guidance, education, upbringing and social experience one learns to understand, accept and cope with fear situations and continue through the phases of one's emotional development. (Herbert, 2004)

During a person's life fear goes through a complex process of development, while certain forms of fear are specifically associated with particular periods of development. We will be focusing on younger school age, which is the subject of our further research. Fear stemming from imaginary creatures may be observed in the early stages of this period. Other common fears include fear of injury, medical intervention and disease. In children aged 9 and upwards we can see the start of fear of death, which reaches a peak during this period and then accompanies the individual throughout his or her life. Another significant group of fears is linked to the school environment. Due to its complexity (the influence of the social, cognitive and emotional areas of the child's development), this may be the source of fears underpinned by a variety of motives. Social relations also start to become important with the gradual approach of adolescence, accompanied by the need to compare oneself and one's performance and expression with those of one's peers. (Muris, 2007)

The emotion of fear in childhood involves a wide range of factors that underpin it. These are internal factors such as the child's personality and particularly temperament and cognitive processes, while external factors include the family environment and quality of parental relations, school and the peer environment, and the broader socio-cultural context (Michalčáková, 2007).

In our research survey we focus on younger school-age children and particularly on so-called gifted children. In connection with the specific characteristics of gifted children, the question may arise as to the quality and quantity of the concept of fear in this context. Due to the above factors that underpin fear, aptitude may also be considered such a factor.

Aptitude most often tends to be described as an individual's ability in selected areas held in esteem by the socio-cultural environment, which is quantitatively and qualitatively more developed in comparison with a child's peers (Heward, 2013). For the purposes of our research aptitude based on one-dimensional definitions and demonstrated performance (Porter, 1999) and is perceived in the sense of a high level of intellectual ability.

If we focus on factors that can influence the specificity of fear in these individuals, gifted children are characterised by typical cognitive and also socio-emotional development. As regards cognitive characteristics (Hertzog, 2008), it is worth mentioning factors such as intense curiosity, abstract thinking, the ability to transfer knowledge, creativity, generating original ideas, excellent memory, interest in philosophical topics. Of the socio-emotional characteristics described by T. L. Gross (2011), these include asynchronous development of the personality (the rift between the level of intelligence and aspects such as motoric, verbal and socio-emotional development), perfectionism, emotional sensitivity, multi-potentiality, intensity and depth of experience.

On the one hand, publications on this topic describe gifted children as individuals with increased levels of selected fears associated particularly with school, such as fear of failure, of manifesting their own real-world skills, fear of taking risks and making decisions, and fear of non-acceptance by their peers (Senior, 2014). A study by J. Derevensky and E. B. Coleman (1989) claimed that gifted children between the ages of 8 and 13 experienced dominant levels of fear in comparison with the control group. Overall they found a higher level of all fears in gifted children, with a significant difference in fear of nuclear war and other global problems. The authors explain this result as being due to expert knowledge possessed by the children, as well as their imagination and the ability to see the consequences of these phenomena.

The EBSCO database contains research carried out by J. G. Tippey and J. J. Burnham (2009) into fear in gifted children between the ages of 7 - 10. They explored fear of death and life-threatening situations, fear of the unknown, social and school-related fears, fear of animals and fear of medical procedures. The most common partial fears in girls included fear of using weapons, combat in war and meeting dangerous strangers. Boys were most afraid of fighting in war and using weapons, although these fears were far less frequent than in girls. Research into fear in gifted children has also been carried out by a team of authors, Portešová, Konečná, Budíková and Koutková (2008), who found that accelerated cognitive development and greater access to information causes global fears (space or natural disasters) to come to the fore earlier and with greater intensity. The authors even imply a link between the

types and intensity of certain fear factors and indicators of advanced intellectual development in gifted children. These outcomes, which express the assumption that gifted children experience higher levels of certain selected types of fear, are summarised by E. Gullone (2004) as follows – the more children know, the more they understand they have reason to be afraid.

There is, however, another group of authors (e.g. Carlson, Hatfield, 1992; Praško, 2005) who explain the emotional reaction of fear through the appropriateness with which a situation is interpreted. According to this principle, an incorrect analysis and subjective evaluation of a situation will give rise to a disproportionate level of fear. This means that if an individual believes that he or she has adequate information and ability to deal with a situation, the danger can be faced and no longer seems to pose such a threat. This theory thus leads to the opposite assumption, i.e. that the level of fear in gifted individuals should be lower in comparison with the average population.

The aim of our research is therefore to determine the level of fear of gifted children in comparison with children from the normal population. The method we used to monitor fear was a traditional one, with a questionnaire giving ratings for pre-defined lists of fear factors.

2. Research methodology

The aim of the research was to determine the level of fear in children from the survey group (gifted children) and the control group (children with no diagnosed gift). The objective was divided up into the following sub-objectives:

- Determine the overall average level of fear and reveal the most and least dreaded fears according to the individual statements in the questionnaire.
- Determine the overall level of fear in terms of the individual types of fear (factors).
- Determine whether there is a difference between the level of fear in terms of the individual factors in the observed and the control group.
- Determine the difference between the level of fear in gifted girls and boys from the survey group.

The research sample consisted of 341 children between the ages of 8 and 12 (average age 9.85). The sample was divided up into an survey group and a control group.

The survey group comprised so-called gifted children, members of Children's Mensa of the Czech Republic. A Mensa IQ test was used to identify aptitude, with a result exceeding 130 points, which corresponds to an intelligence level possessed by approx. 2% of the population. This is a group non-verbal test based on the Stanford – Binet Scale and Cattell's intelligence theory, adapted for intelligence screening purposes. The children were also approached to fill in the questionnaire through the leaders of leisure activities and specialised schools set up by Mensa. The survey group contained a total of 130 gifted children from all over the Czech Republic (82 boys, 48 girls).

The control group comprised a total of 211 children (95 boys, 116 girls). These were children attending normal elementary school with no specialised programme for gifted children and who have not yet been undergone any form of aptitude diagnosis. Data for both groups was collected in the same regions of the Czech Republic, in May and June 2015.

The technique used in this research involved a special questionnaire comprising statements about forms of fear, which the children rated on a scale of 1 to 7, with 1 meaning disagree and 7 meaning totally agree. The statements originated from the results of a special quality-oriented research probe (Machů, 2013), the aim of which was to determine what the concept of fear involved in gifted and other children. The original questionnaire contained a total of 37 statements about forms of fear, divided up into the themed areas of Family and Home (statements 1-7), School and Learning (8-13), Friends (14-18), Illness and Death (19-23), The World (24-30) and Phobias (31-37).

All the children's ratings for these statements were then subject to a factor analysis, on the basis of which we selected 31 statements structured in five factors: F1 – F5. The total variance of the questionnaire is 51.54%. According to Cronbach's alpha, the reliability of the individual factors in the questionnaire is as follows: F1 = 0.81, F2 = 0.82, F3 = 0.80, F4 = 0.82, F5 = 0.68. The questionnaire as a whole shows a high level of reliability, with 0.91. We assigned names to the factors according to the sub-statements in the individual factors, see Table 1.

Table 1. Division of statements into factors

Factor	Statement (with numbers used in the original questionnaire):
F1	1. I am afraid that I will lose my family and end up alone, homeless and loveless.
"My family"	4. I am afraid that no one at home will love me.
	6. I am afraid that my family will not have enough time for me.
	3. I am afraid of violence or quarrels between the members of my family.
	5. I am afraid that I will disappoint my parents or family.
	19. I am afraid that a member of my family will fall seriously ill or die
	7. I am afraid that in the future I will end up alone with no partner and will not start my own family.
F2	27. I am afraid of epidemics, i.e. diseases that will afflict all of humankind.
"Global problems and illness"	26. I am afraid of floods, fires and earthquakes.
	28. I am afraid of wars and terrorism.
	20. I am afraid of my own death.
	30. I am afraid of the end of the world.
	25. I am afraid of water and environmental pollution.
	21. I am afraid that I will come down with a serious illness.
F3	9. I am afraid that I will have poor grades.
"Results at school"	8. I am afraid of exams and tests.
	13. I am afraid that I will not get into secondary school or university.
	12. I am afraid of performing poorly in lessons.
	10. I am afraid that I will fail at school.
F4	14. I am afraid that I will not be popular amongst my peer group.
"Losing friends"	18. I am afraid that others will not understand me.
	23. I am afraid that my appearance will change for the worse.
	15. I am afraid that I will not have any friends.
	16. I am afraid that I will lose a friend.
	17. I am afraid that others will laugh at me.
F5	33. I am afraid of storms.
"Phobias"	32. I am afraid of doctors.
	34. I am afraid of smaller animals (such as insects, mice, giant spiders).
	37. I am afraid of aircraft and flying.
	36. I am afraid of ghosts, vampires, or animated things.
	35. I am afraid of larger animals (e.g. bears, big dogs, sharks).

3. Data analysis

The main aim of the research was to determine the level of fear in children from the survey group (gifted children) and the control group (children with no diagnosed gift). The first sub-objective was to determine the overall average level of fear and reveal the most and least dreaded fears according to the individual statements. The children rated the statements on a scale of 1 to 7, with 1 expressing the lowest level of fear and 7 expressing the greatest. If we assess both groups of children simultaneously, the level of fear rated most often ranges from 4 to 5 (for 102 children). The average is 3.82, which is a slightly above-average result in comparison with all the answers rated on a scale of 1 to 7. Therefore, the fears in question in all the children are slightly above-average.

In both of the groups in question the top four most dreaded factors were fears of war and terrorism (the average for both groups was 5.27), fear of illness or the death of someone close (4.84) and epidemics (4.79). Moving on, to the end of the list, the least dreaded fears in the last three for both groups were fear of aircraft and flying (2.21), doctors (2.53) and storms (2.49). We noticed that the answers were relatively similar for both groups, so we correlated the individual statements for the survey group and the control group using Pearson's correlation coefficient. This confirmed a high degree of correlation ($r_p = 0.881$), to a significance level of 0.01. It may therefore be said that both the groups we compared declare an almost identical scale of factors as far as fear level is concerned. However, this does not mean that the level of fear is the same in the groups we surveyed.

Another aim was to determine the overall level of fear as regards the individual factors. The children again

rated the statements on a scale of 1 to 7. The highest average value (4.50) and thus the greatest fear in both groups resulted from F2 – Global problems and illness. This was followed by F1 – My family (3.89), F3 – Results at school (3.75) and F4 – Losing friends (3.67). The children were least afraid of fears stemming from factor F5 – Phobias (3.14).

We also explored whether there was a difference between levels of fear in terms of the individual factors when comparing the two groups. We set hypothesis H1: Children from the survey group (gifted children) declare a higher level of fear than children from the control group. The hypothesis was tested using a T-test and confirmed a statistically significant difference in the overall level of fear, with a significance level of 0.001. Table 2 shows the results of tests on the individual fear factors, while differences were confirmed in all the factors except F2. Gifted children therefore declare a lower level of fear in factors F1 – My family, F3 – Results at school F4 – Losing friends and F5 – Phobias. The hypothesis was not substantiated.

Table 2. T-test for Equality of Means (testing hypothesis H1)

Factor	Test criterion *(t)*	Number of degrees of freedom (df)	Significance value (2-tailed)	Mean Difference
F1	-4.423	339	.000	-.73055
F2	-1.099	339	.273	-.18394
F3	-5.642	339	.000	-.98630
F4	-2.556	339	.011	-.45811
F5	-4.173	339	.000	-.62126
Total	-4.560	339	.000	-.57449

Another sub-objective was to determine the difference between the level of fear in gifted girls and boys. We defined hypothesis H2: Overall, gifted boys declare a lower level of fear than gifted girls. The hypothesis was tested using a T-test. The difference was confirmed to a significance level of 0.05. gifted boys really do declare a lower overall level of fear than gifted girls. As regards the individual factors in the questionnaire, a statistically significant difference confirming a lower level of fear in boys was observed in factors F1 - My family and F5 - Phobias.

Table 3. T-test for Equality of Means (testing hypothesis H2)

Factor	Test criterion *(t)*	Number of degrees of freedom (df)	Significance value (2-tailed)	Mean Difference
F1	-2.000	128	.048	-.54283
F2	-1.734	128	.085	-.48614
F3	-1.874	128	.063	-.52937
F4	-1.938	128	.055	-.55810
F5	-2.790	128	.006	-.58926
Total	-2.618	128	010	-.53980

4. Summary and discussion

The aim of our study was to determine the level of fear in children from the survey group (gifted children) and the control group (children with no diagnosed gift). The tool used for the research was a questionnaire containing statements about forms of fear, which were rated on a scale of 1 to 7 (1 – the least fear, 7 – the greatest fear). The questionnaire was then subject to a factor analysis, which resulted in 5 factors, which were subsequently

named.

First of all we determined the overall average level of fear, which was 3.82, which was a slightly above-average result in comparison with all the answers rated on a scale of 1 to 7. Therefore, in relation to this research technique the fears we surveyed in all the children are slightly above-average. We also focused on individual fears and their evaluation. In both the groups in question the top four fears were fear of war and terrorism, fear of illness or the death of someone close, and fear of epidemics. In contrast, the least dreaded fears were fear of aircraft and flying, doctors and storms. We found that the individual rated statements showed a high degree of correlation when comparing both groups ($r_p = 0.881$), to a significance level of 0.01. We then found that both the groups declared an almost identical scale of factors as far as individual fear level is concerned. However, we did find that that the level of fear various as regards the individual factors. Gifted children declared a lower level of fear in factors F1 – My family, F3 – Results at school F4 – Losing friends and F5 – Phobias. The same levels of fear in children from the control group and also the most dreaded types of fear were F2 – Global problems and illness.

We also determined the overall level of fear in terms of the individual factors for both of the groups simultaneously. The greatest fears stemmed from F2 – Global problems and illness, followed by F1 – My family, F3 – Results at school and F4 – Losing friends. The children showed the least fear from factor F5 – Phobias. Last but not least we focused solely on the group of gifted children and determined the difference between fear in gifted girls and boys. Overall, gifted boys declared a lower level of fear than gifted girls. As regards the individual factors of the questionnaire, boys declared a lower level of fear for factors F1 - My family and F5 - Phobias.

We therefore revealed that fears in gifted children are less intense than fears in children from the normal population. In this case we tend to agree with the theory described (Carlson, Hatfield, 1992), in which fear is eliminated by the fact that gifted children have adequate information about the threat and thus see the situation as less dangerous. This outcome may, however, also be a reflection of the selected definition of aptitude and the sample group of children chosen. These were gifted children, mostly from elementary schools with a specialised programme, which in our opinion may influence the way in which gifted children perceive themselves. Gifted children are diagnosed there and also tend to be labelled more as gifted. Gifted children, unlike the children from the control group, might therefore have underestimated their real fears in the questionnaire.

We did not observe such significant differences between fear in gifted children and in children from the normal population as in the aforementioned study. However, in line with other studies (Tippey & Burnham, 2009; Portešová & col., 2008), we find that what gifted children are most afraid of are global problems, although it is important to mention that this fear is rated the same by children from the normal population. As Prokopius & Šulista (2007) have pointed out, fear of global problems may represent fear arising from a situation in which the individual is forced to take the role of a passive observer with no chance of influencing the situation. In this case the factors of education and upbringing do not allow the children to process the concept of fear. In the case of the other fears and situations from our statements (Results at school, Losing friends, Phobias, Family), it may be assumed that the child may influence these at least to some extent.

The results of the research might also have been influenced by the use of the questionnaire and the choice of statements about fear. The questionnaire focused only on selected fears, with which the children might not necessarily come into contact in their lives and the criterion for their response was more an immediate affective reaction to the statement. The questionnaire thus explored the hierarchy of fear in children rather than the actual real existence of those fears.

5. Recommendations for teachers

In his article, R.T. Lamont (2012) lists several recommendations for teachers as to how to work with fear in (not only) gifted children. These are not about mere elimination, or support. Of these, we chose the following tips which are in line with the findings from our research:

- Became more aware of the characteristics and needs of gifted children. Teachers should know the typical manifestations in these pupils and be aware how they can determine their fears. These particularly include advanced cognitive development, high sensitivity and frequent emotive experience of situations.

- Determine realistic expectations. Pupils need to be taught that giftedness does not mean instant mastery. Teachers should help students set realistic expectations for themselves and choose appropriate goals. This need stems particularly from perfectionism, which may be the source of several types of stress amongst gifted children.
- Provide opportunities to express feelings. Gifted pupils need to know that strong feelings are never wrong. A good idea may be to create a worry jar where children can "store" their worries.
- Teach problem-solving skills. Teaching problem-solving skills will provide gifted learners with practice in dealing day-to-day stressors and anxieties inside and outside the classroom.
- Teach different philosophies of life. Teachers can directly address the needs of students who are anxious as a reset of intellectual over-excitabilities by teaching different philosophies for the meaning of life. It may help pupils to learn about how other intellectuals have answered these deep questions.

6. Conclusion

Fear is a fundamental aspect of being human and influences our further emotional and social development. We should therefore take a sceptical view of the various methods that promise to liberate one from fear. They do not reflect what it is truly like to be human and build up illusory expectations. Avoiding fear and confrontations with one's fears actually causes people to stagnate and slows the developmental process. Thus, the aim with children is not to rid them of fear, or to support them, but to teach them to accept their fears in a reasonable manner. Besides the family environment, it is school that can be successful in guiding children's fears.

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