

Franz J. Mönks en Willy A.M. Peters

Talent for the future

Social and personality development of gifted children
Proceedings of the Ninth World Conference on Gifted and Talented
Children



1992

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Research on giftedness and talent in the proceedings to WCGT Conferences 1975-1989

Kurt A. Heller & Pauline Menacher, Germany

To our knowledge there has long been no systematic analysis of current trends in international giftedness research on the basis of the WCGT Conferences. At the first WCGT summit in Vienna at the end of October 1990 a working group discussed research desiderata and attempted to sketch out perspectives for the future -- mainly from a practical point of view. However, any such venture undertaken without hard empirical data on the current situation is bound to be rather speculative.

There are many ways to take a stock check, for instance a comprehensive survey of the literature, questionnaire surveys, interviews with experts, etc. I have decided on a formal content analysis of the eight Proceedings to WCGT published to date. This is of course only a first attempt which, in spite of WCGT's international perspective, can at best deal with only a subset of all work in the field of giftedness and talent or high ability world wide. The results presented here need to be confirmed and elaborated in a variety of ways. For instance, at the University of Munich we have begun to construct a data bank of the international literature on giftedness research, which will require at least two or three more years to complete.

There is not sufficient time to say more about this data bank or anything about a series of new subject-specific literature surveys except to mention just two by name. Waldmann & Weinert (from the Max-Planck-Institute for Psychological Research in Munich) give a good overview of mostly psychological research on intellectual giftedness in their book "Intelligence and thinking - perspectives on giftedness research" (1990). We have published the results of our literature surveys on "Gifted girls and women in mathematics, natural sciences and technology" (Beerman, Heller & Menacher, 1992). Both investigations were requested by the German Federal Ministry for Education and Science in Bonn.

We will now summarize the results of the analyses of the WCGT Proceedings, in particular those which might interest the congress participants here in The Hague. I would like to thank Dr. Pauline Menacher for carrying out the statistical analysis. Included in the survey were all contributions in the eight volumes of proceedings published to date, from 1975 to 1989. Not included were contributions which were published elsewhere (e.g. in journals; cf. Rogers, 1989, or Carter & Swanson, 1990) or as separate books (e.g. as symposium reports). To this extent the following content analysis is not quite complete. However, the representativeness of the results should not be substantially affected.

Figure 1 shows the total number of published individual contributions between 1975 and 1989. The figures for London (1975; cf. Gibson & Chennels, 1976), San Francisco (1977; cf. Gallagher, 1979), Jerusalem (1979; cf. Kramer

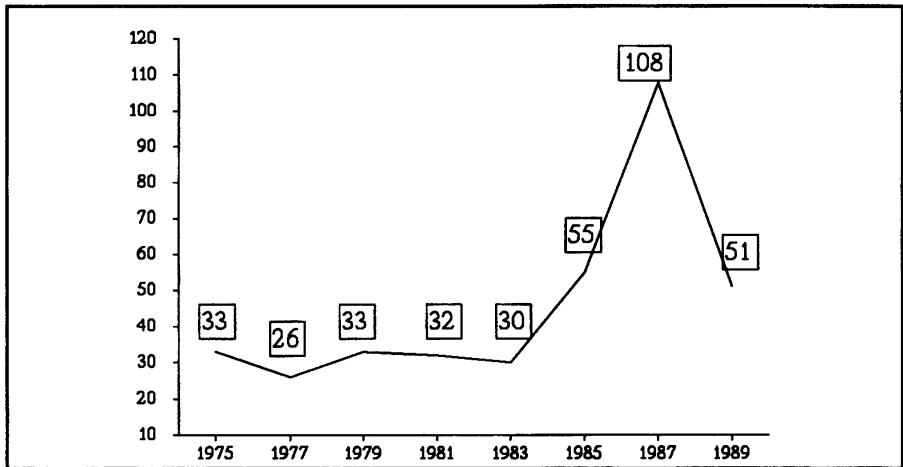


Figure 1 Number of papers published in the WCGT Conference Proceedings 1975-1989.

et al., 1981), Montreal (1981; cf. Shore et al., 1983) and Manila (1983; cf. Roldan, 1985) are fairly constant at just over 30 contributions, with a surprising drop for San Francisco to only 26 contributions. The number of published papers rose in Hamburg (1985, cf. Cropley et al., 1986) to 55 and shot up to 108 in Salt Lake City (1987; cf. Taylor, 1990), to sink again in Sydney (1989; cf. Bailey, Braggett & Robinson, 1990) to just under the Hamburg level with 51. The actual number of published congress contributions is certainly higher, as can be illustrated with the example of Hamburg: in addition to the official report published by Trillium Press (Cropley et al., 1986), 12 symposium contributions on "Identifying and Nurturing the Gifted: An International Perspective" were published as a separate book (Heller & Feldhusen, 1986). In addition, there were two books published in German: Wiczerkowski, Wagner, Urban & Cropley (1986) and Carl & Hahn (1986). An total of about 500 papers were presented at the Hamburg conference, so the proportion of papers published (all of them in English) comes to only 15%. This proportion can be taken as a rough average for all conference contributions, probably exceeded only once at Salt Lake City. In Figure 2 (also cf. Table 1a/Table 1b) the contributions published in the Proceedings are broken down according to subject. For reasons of clarity, only the main subjects are dealt with here. In nearly all years, the two dominant subjects are "Educational Processes and Structures" (e.g. educational philosophy, curriculum and program development, instructional systems, special programs and schools, teacher training etc.) and "Personal Characteristics" (e.g. multiple vs. single forms of giftedness, gender specific differences, gifted underachievers etc.). These are followed by "Social Context and Social Structures" and "Development and Identification". The detailed breakdowns are given in Tables 1a and 1b. The picture is not essentially different when the individual themes are grouped somewhat differently (cf. Figure 3 and Table 2a/Table 2b). In addition to the topics covered, we are also particularly interested in the

	33 1975	26 1977	33 1979	32 1981	30 1983	55 1985	108 1987	51 1989
Subjects	%	%	%	%	%	%	%	%
<u>Learning and perception</u>	<u>1.7</u>	<u>8.7</u>	<u>4.4</u>	<u>2.2</u>	<u>0.0</u>	<u>9.5</u>	<u>2.3</u>	<u>4.2</u>
cognitive processes and structures								
learning processes and strategies								
memory								
solving								
<u>Identification</u>	<u>16.7</u>	<u>7.2</u>	<u>7.8</u>	<u>3.2</u>	<u>10.5</u>	<u>12.5</u>	<u>6.8</u>	<u>4.8</u>
identification								
testevaluation								
<u>Development</u>	<u>15.0</u>	<u>14.5</u>	<u>12.2</u>	<u>7.6</u>	<u>13.2</u>	<u>7.7</u>	<u>12.3</u>	<u>10.4</u>
development								
emotional response and development								
holistic approach								
moral development								
<u>Characteristics of the gifted</u>	<u>23.3</u>	<u>23.2</u>	<u>26.1</u>	<u>17.2</u>	<u>21.1</u>	<u>28.6</u>	<u>34.5</u>	<u>31.10</u>
creativity								
gifted underachievers								
giftedness								
intelligence								
interests, leisure activities								
needs								
personality traits								
sex differences								
talent								
-multiple								
-special								
art, dance, music, sports								
mathematics, science techniques, computers								
language, reading								
others								
<u>Physical and mental conditions</u>	<u>5.0</u>	<u>0.0</u>	<u>0.0</u>	<u>4.3</u>	<u>0.0</u>	<u>1.8</u>	<u>0.0</u>	<u>2.7</u>
gifted disabled								
physical disabilities								
physical and mental constitutions								
<u>Educational processes and structures</u>	<u>35.0</u>	<u>29.0</u>	<u>35.6</u>	<u>36.5</u>	<u>41.2</u>	<u>29.8</u>	<u>35.0</u>	<u>34.5</u>
curriculum and program development								
educational philosophy								
educational policy and reforms								
educational trends (future images)								
instructional systems								
special education, special programs								
special schools								
student/teacher behavior and interaction								
teacher training								
<u>Social context and social structures</u>	<u>3.3</u>	<u>17.4</u>	<u>13.9</u>	<u>29.0</u>	<u>14.0</u>	<u>10.1</u>	<u>9.1</u>	<u>12.4</u>
family and peer influence								
gifted disadvantaged								
intercultural programs								
leadership, entrepreneurs								
social attributes								
social problems								
Total number	100	100	100	100	100	100	100	100

Table 1a Main subjects (percentages) according to categorizing I in the WCGT Conference Proceedings 1975-1989

qualitative profile of the conference contributions. In order to obtain this information the published papers were divided into the following five classes: theoretical papers, contributions to basic (pure) and applied research (empirical studies), publications for educational practice and practice reports (see Figure 4). As expected, practical and educational topics dominated. Apart from 1989, the

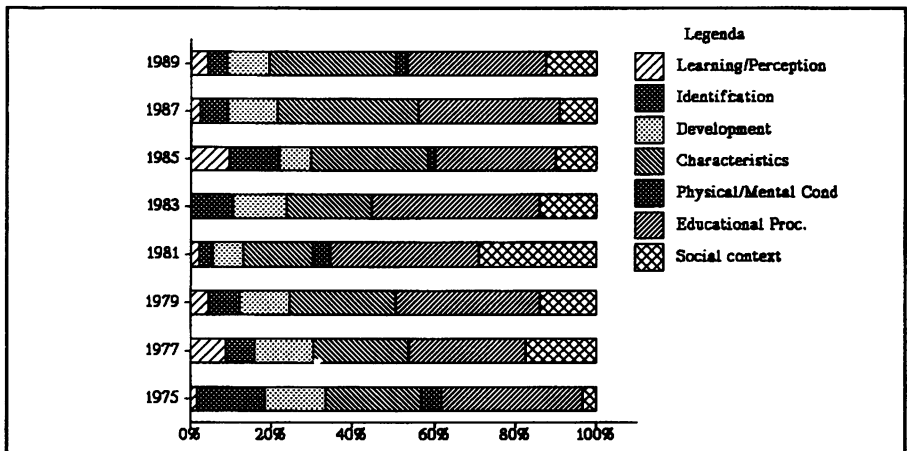


Figure 2 Content analysis of the WCGT Conference Proceedings: Main subjects (categorizing I)

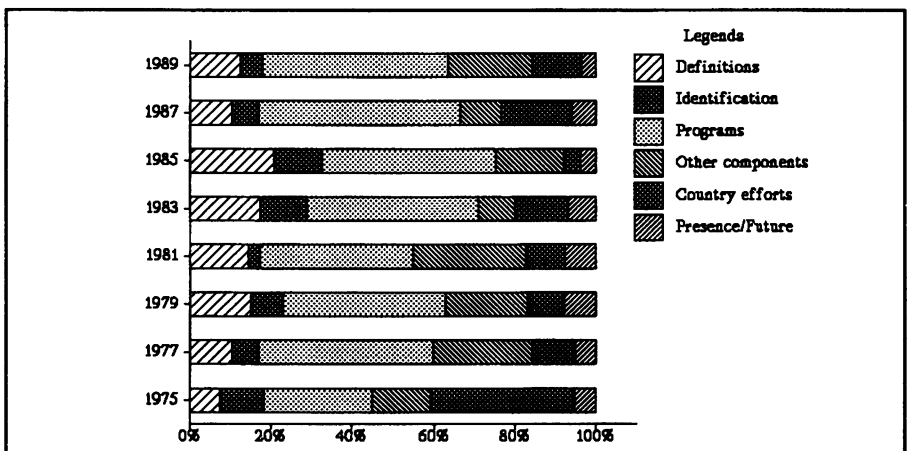


Figure 3 Content analysis of the WCGT Conference Proceedings: Main subjects (Categorizing II)

proportion of theoretical papers is astonishingly high, whereas the majority of them were, not surprisingly, empirical studies in applied topics. Contributions to pure research did not appear until the last three conferences: there were a particularly high number in Hamburg (1985). The program structure of this 6th conference seems indeed to have been most balanced, with the smallest proportion of practice reports. The lesson here for the future would be that, in order to reach giftedness researchers in basic and pure research in particular, the Hamburg conference provides the best model. However, it should be mentioned that corresponding information on the conference in the Hague is not yet available and so it could not be included in these comparisons.

Numbers of proceedings	33	26	33	32	30	55	108	51
Subjects	1975 N	1977 N	1979 N	1981 N	1983 N	1985 N	1987 N	1989 N
<u>Learning and perception</u>	1	6	5	2	0	16	5	6
cognitive processes and structures	1	3	1	1	0	8	2	3
learning processes and strategies		2	2	1		4	3	1
memory						1		
solving		1	3			3		2
<u>Identification</u>	10	5	9	3	12	21	15	7
identification	9	4	9	3	11	15	12	6
testevaluation	1	1			1	6	3	1
<u>Development</u>	9	10	14	7	15	13	27	15
development	6	6	8	5	13	7	19	9
emotional response and development	1	4	1	2	1	2	2	4
holistic approach	1		4		1	4	5	2
moral development							1	
<u>Characteristics of the gifted</u>	14	16	30	16	24	48	76	45
creativity	2	3	4	3	1	6	17	5
gifted underachievers	1	1		2	1	1	1	3
giftedness	2	2	5	3	7	7	3	3
intelligence			2	2		5		3
interests, leisure activities			1		3		2	2
needs	2	6	8	4	3	5	6	6
personality traits	3		4	1	5	7	5	9
sex differences		2	2		1	5	3	5
talent							4	
-multiple						1	4	
-special								
art, dance, music, sports	3	1	1		1	5	6	6
mathematics, science techniques,								
computers	1	1	3	1		6	12	2
language, reading					2		5	1
others							8	
<u>Physical and mental conditions</u>	3	0	0	4	0	3	0	4
gifted disabled	1			1		1		4
physical disabilities	1			1				
physical and mental constitutions	2			2		2		
<u>Educational processes and structures</u>	21	20	41	34	47	50	77	50
curriculum and program development	3	2	7	5	9	10	17	5
educational philosophy	4	2	5	4	6	3	9	4
educational policy and reforms		3	3	7	5	4	11	8
educational trends (future images)	1	2	5	4	3	4	7	2
instructional systems	5	4	4	5	3	13	10	5
special education, special programs	3	5	9	7	15	7	11	19
special schools			4	2	4	3	3	1
student/teacher behavior and interaction	2	2	2			2	6	3
teacher training	3		2		2	4	3	3
<u>Social context and social structures</u>	2	12	16	27	16	17	20	18
family and peer influence	2	7	8	7	2	8	6	5
gifted disadvantaged			3	4	2	1		1
intercultural programs		1	1	3	6		1	3
leadership, entrepreneurs		2		1	2	4	8	2
social attributes		1	3	4	3	3	3	4
social problems		1	1	8	1	1	2	3
Total number	60	69	115	93	114	168	220	145

Table 1b Main subjects (frequency) according to categorizing I in the WCGT Conference Proceedings 1975-1989

The dominance of applied research and the strong practical flavor of the contributions is reinforced by the pattern of the psychological subdisciplines involved (see Figure 5). When compared to the prevalence of educational psychologists (and it is to be assumed that many educational scientists also

Subjects	33 1975	26 1977	33 1979	32 1981	30 1983	55 1985	108 1987	51 1989
Numbers of proceedings								
Subjects	%	%	%	%	%	%	%	%
<u>Definitions and Concepts of Giftedness and Talent</u>	<u>7.5</u>	<u>10.4</u>	<u>15.1</u>	<u>14.4</u>	<u>17.5</u>	<u>20.8</u>	<u>10.5</u>	<u>12.5</u>
cognitive processes and structures								
curriculum and program development								
giftedness								
holistic approach								
intelligence								
intercultural programs								
longitudinal studies								
<u>Identification of Giftedness and Talent</u>	<u>10.7</u>	<u>6.5</u>	<u>7.9</u>	<u>2.9</u>	<u>11.4</u>	<u>11.8</u>	<u>6.4</u>	<u>5.4</u>
identification								
interest, leisure activities								
testevaluation								
<u>Programs and Practices for Nurturing the Gifted</u>	<u>26.9</u>	<u>42.8</u>	<u>39.7</u>	<u>37.5</u>	<u>42.0</u>	<u>42.7</u>	<u>49.6</u>	<u>45.5</u>
creativity								
development								
educational policy and reforms								
instructional systems								
leadership, entrepreneurs								
learning processes and strategies								
memory								
problem solving								
emotional response and development								
moral development								
personality traits								
social attributes								
special education, special programs								
special schools								
talent								
-multiple								
-special								
art, dance, music, sports								
mathematics, science techniques, computers								
language, reading								
others								
<u>Other Components of Nurturing Giftedness and Talents</u>	<u>14.0</u>	<u>24.7</u>	<u>20.6</u>	<u>27.9</u>	<u>9.2</u>	<u>16.9</u>	<u>10.2</u>	<u>21.0</u>
family and peer influence								
gifted disabled								
gifted disadvantaged								
gifted underachievers								
needs								
sex differences								
physical disabilities								
physical and mental constitutions								
social problems								
student/teacher behavior and interaction								
teacher training								
<u>Examples of Country Efforts to Identify and Nurture Giftedness and Talent</u>	<u>35.5</u>	<u>10.4</u>	<u>8.8</u>	<u>9.6</u>	<u>13.0</u>	<u>3.9</u>	<u>17.3</u>	<u>12.0</u>
Reports of national programs								
<u>Presence and Future of Education of the Gifted/Talented</u>	<u>5.4</u>	<u>5.2</u>	<u>7.9</u>	<u>7.7</u>	<u>6.9</u>	<u>3.9</u>	<u>6.0</u>	<u>3.6</u>
educational philosophy								
educational trends (future images)								
Total number	100	100	100	100	100	100	100	100

Table 2a Main subjects (percentages) according to categorizing II in the WCGT Conference Proceedings 1975-1989

classified themselves under this heading), it is perhaps surprising how few developmental psychologists are represented. It seems that the wide spectrum of topics shown in the Figures 2 and 3 was to a large extent covered by workers in the fields of educational science as well as by teachers and educators. This could

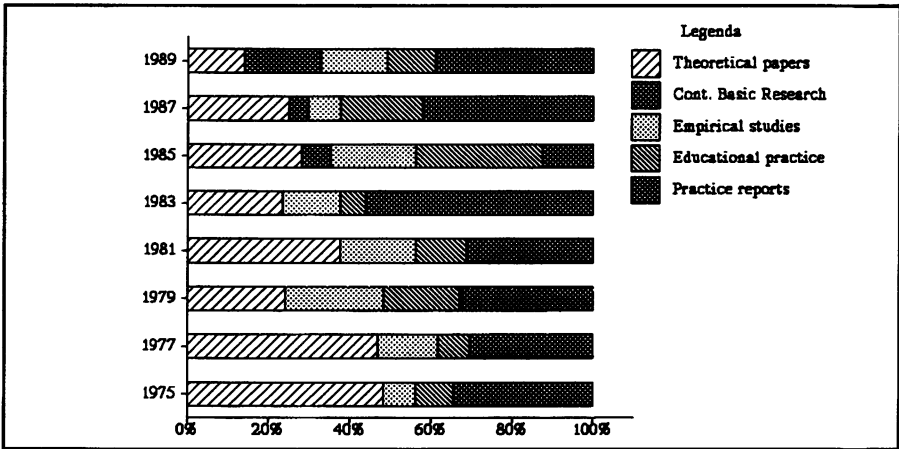


Figure 4 Content analysis of the WCGT Conference Proceedings: Percentages of research and practice reports 1975-1989

provide an explanation for why pure research -- including the areas of development and socialization -- has been so weakly represented at the WCGT conference to date and which appears, moreover, to have been recently dropping further in importance. If it is true that the quality of applied research and practical work is in one way or another influenced by the insights of pure research, then these results are quite alarming.

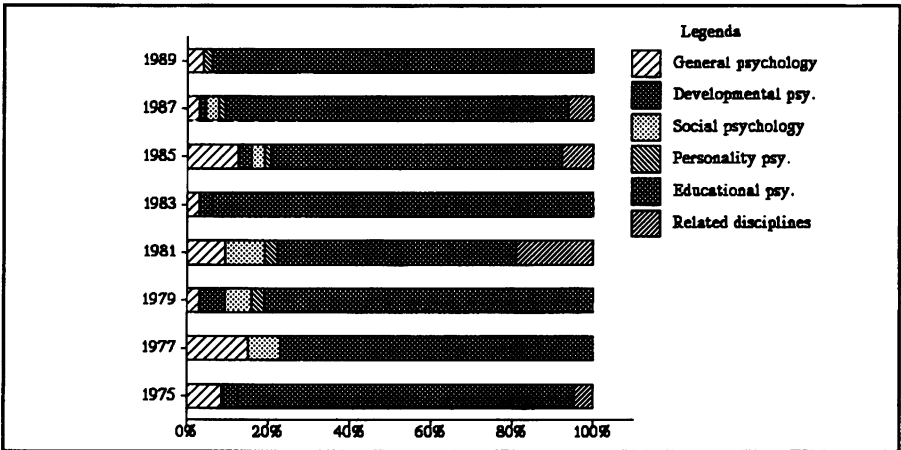


Figure 5 Pattern of psychological subdisciplines to categorizing I in the WCGT Conference Proceedings 1975-1989

Table 3 gives further detailed information on methods favored currently, experimental designs, sample sizes, age groups and so on. What consequences for the further work of the WCGT can be drawn from these provisional results?

Numbers of proceedings	33 1975	26 1977	33 1979	32 1981	30 1983	55 1985	108 1987	51 1989
Subjects	N	N	N	N	N	N	N	N
Definitions and Concepts of Giftedness and Talent								
<u>Definitions and Concepts of Giftedness and Talent</u>	7	8	19	15	23	37	28	21
cognitive processes and structures	1	3		1		8	2	3
curriculum and program development	3	2	7	5	9	10	17	5
giftedness	2	2	5	3	7	7	3	3
holistic approach	1		4		1	4	5	2
intelligence			2	2		5		3
intercultural programs		1	1	3	6		1	3
longitudinal studies				1		3		2
Identification of Giftedness and Talent								
<u>Identification of Giftedness and Talent</u>	10	5	10	3	15	21	17	9
identification	9	4	9	3	11	15	12	6
interest, leisure activities					3		2	2
testevaluation	1	1			1	6	3	1
Programs and Practices for Nurturing the Gifted								
<u>Programs and Practices for Nurturing the Gifted</u>	25	33	50	39	55	76	132	76
creativity	2	3	4	3	1	6	17	3
development	6	6	8	5	13	7	19	9
educational policy and reforms		3	3	7	5	4	11	8
instructional systems	5	4	4	5	3	13	10	5
leadership, entrepreneurs		2		1	2	4	8	2
learning processes and strategies		2	2	1		4	3	1
memory						1		
problem solving		1	3			3		2
emotional response and development	1	4	1	2	1	2	2	4
moral development	1		1				1	
personality traits	3		4	1	5	7	5	9
social attributes		1	3	4	3	3	3	4
special education, special programs	3	5	9	7	15	7	11	19
special schools			4	2	4	3	3	1
talent							4	
-multiple						1	4	
-special								
art, dance, music, sports	3	1	1		1	5	6	6
mathematics, science techniques, computers	1	1	3	1		6	12	2
language, reading					2		5	1
others							8	
Other Components of Nurturing Giftedness and Talents								
<u>Other Components of Nurturing Giftedness and Talents</u>	13	19	26	29	12	30	27	35
family and peer influence	2	7	8	7	2	8	6	5
gifted disabled				1		1		4
gifted disadvantaged			3	4	2	1		1
gifted underachievers	1	1	2	2	1	1	1	5
needs	2	6	8	4	3	5	6	6
sex differences		2	2		1	5	3	5
physical disabilities			1			1		
physical and mental constitutions			2			2		5
social problems			1	8	1	1	2	3
student/teacher behavior and interaction	2	2	2			2	6	3
teacher training	3		2		2	4	3	3
Examples of Country Efforts to Identify and Nurture Giftedness and Talent								
<u>Examples of Country Efforts to Identify and Nurture Giftedness and Talent</u>	33	8	11	10	17	7	46	20
Reports of national programs	33	8	11	10	17	7	46	20
Presence and Future of Education of the Gifted/Talented	5	4	10	8	9	7	16	6
educational philosophy	4	2	5	4	6	3	9	4
educational trends (future images)	1	2	5	4	3	4	7	2
Total number	93	77	126	104	131	178	266	167

Table 2b Main subjects (frequency) according to categorizing II in the WCGT Conference Proceedings 1975-1989

The following issues seem to me to be of the highest priority:

- 1 Topics in the field of basic research (e.g. conceptualizations and problems of giftedness and talent, development and acquisition of cognitive competences,

Age	1975	1977	1979	1981	1983	1985	1987	1989
Early childhood/preschool (through 6 years)					1	1		
Primary education, grade 1, 2, 3 (6 through 8 years)	1	1	2	1		3	1	
Elementary secondary education, grade 4, 5, 6, 7, 8, (9 through 13 years)		2	6	2		9	5	7
Secondary education, grade 9, 10, 11, 12 (14 through 17 years)		1	1	1	1	6	2	4
Higher education (18 through 26 years)		1					1	
Adulthood		1			2			6
Total (multiple rating)	1	6	9	4	4	19	9	17

Measurement techniques	1975	1977	1979	1981	1983	1985	1987	1989
Interview	2	3	7	4	2	7	5	14
Observation				1		2		
Experiment, Quasiexperiment with Intervention		1	1	1	2	2	3	2
without Intervention						3		
Total	2	4	8	6	4	14	8	16

Design	1975	1977	1979	1981	1983	1985	1987	1989
one-age-groep	1	1	3		2	2	2	3
cross-sectional	1	2	5	5	2	9	6	10
longitudinal				1		3		2
Total	2	3	8	6	4	14	8	15

Sample size	1975	1977	1979	1981	1983	1985	1987	1989
0 - 100	2	2	4	3		7	3	4
101 - 500		1	4	2	4	5	3	6
501 - 1000		1				1	1	3
1000 and more						1	1	2
Total	2	4	8	5	4	14	8	15

Table 3 Age groups, methods, and sample sizes used in the empirical contributions to the WCGT Conference Proceedings 1975-1989

acquisition and application of knowledge, acquisition of expertise and the development of thinking and creativity) should be reflected in the program structure of the WCGT conferences. Here, the two main competing research paradigms, psychometrics and cognitive science, should be treated in such a way that they complement one another. In addition, significant contributions could be expected firstly from cross-cultural studies in the field of high ability with their important function of verification or falsification of theories and reassessment of measuring instruments and method and secondly from interdisciplinary research. Other important topics include the course of development of the highly gifted in the second half of the life span (longitudinal studies) and quasi-experimental studies based on causal analysis of gender-specific differences, especially in the field of mathematics, natural sciences and technology.

Countries of Origin (Authors)	1975	1977	1979	1981	1983	1985	1987	1989
Africa				6.3	10.0	5.5	3.7	3.9
Arabian Countries and Israel	13.0	7.7	21.2	6.3	6.7	5.5	2.8	5.9
Asia and Philippines		3.8			23.4	3.6	0.9	
Australia and New Zealand			9.1	3.1	10.0	9.1	3.7	29.4
China and Japan			3.0		3.3	5.5	2.8	
Canada	4.4		6.1	25.0	10.0	10.9	6.5	11.8
Eastern Europe		7.7				9.1	1.9	
South America		3.8			3.3		4.6	3.9
USA	34.8	61.6	45.4	28.1	30.0	32.7	68.5	35.3
Western Europe	47.8	15.4	15.2	31.2	3.3	18.1	4.6	9.8
Numbers of proceedings	100	100	100	100	100	100	100	100

Table 3b Countries of origin (authors) of the contributions to the WCGT Conference Proceedings since 1975: Percentages

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