Leibniz Network

Non-Cognitive Skills
Acquisition and Economic Consequences

Supported by the Leibniz Association within the "Pakt für Forschung und Innovation 2008"

Centre for European Economic Research (ZEW), Mannheim
Centre for the Economics of Education, London
Center for Quantitative Methods and Survey Research, University of Konstanz
Center for Research on Intentions and Intentionality, University of Konstanz
Central Institute of Mental Health, Mannheim
Economics Research Center, University of Chicago
German Socio-Economic Panel at DIW, Berlin
SÜDWESTMETALL Bildungswerk, Stuttgart

First Newsletter on Activities, October 2008
Dear colleagues,

This newsletter provides information on the scientific activities of our multidisciplinary and international Leibniz Network Non-Cognitive Skills: Acquisition and Economic Consequences. It is divided into five subsections (see below), summarizing our main network and research activities. We plan to collect the information on a regularly basis and to distribute the newsletter three times during the duration of the network. The newsletter also aims at documenting network activities for evaluation purposes. We kindly ask you to include a sentence, such as “We gratefully acknowledge support from the Leibniz Association, Bonn, in the research network ‘Non-Cognitive Skills: Acquisition and Economic Consequences’” in all discussion papers and publications that have been written with support from the Leibniz network. Whenever you feel the need or have a suggestion, please feel free to contact me at Pfeiffer@zew.de.

Our second conference will take place at Lake Constance, March 19-21, 2009, and will be organized by Anja Achtziger and Peter Gollwitzer. Our third conference will take place at SOEP, DIW Berlin, October 22-24, 2009, and will be organized by Jürgen Schupp and C. Katharina Spieß from the SOEP group.

Best wishes, Friedhelm Pfeiffer

Network Coordination, ZEW Mannheim

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Imprint

Network Activities – published regularly
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You may unsubscribe with an email to: pfeiffer@zew.de. Mail text: Unsubscribe NCS Activities
1. Institutions, People

**Center for Research on Intentions and Intentionality, University of Konstanz**

PD Dr. Anja Achtziger, Dr. Ute Bayer, Prof. Peter M. Gollwitzer, Ph.D.

**Center for Quantitative Methods and Survey Research, University of Konstanz**

Prof. Dr. Winfried Pohlmeier, Laura Wichert

**Central Institute of Mental Health, Mannheim**

Dorothea Blomeyer, Prof. Dr. Manfred Laucht

**Centre for the Economics of Education, London School of Economics and Political Science**

Prof. Joan Blanden, Ph.D., Clair Crawford, Prof. Steve Machin, Ph.D., Emma Tominey

**German Socio-Economic Panel Study at DIW, Berlin**

Prof. Dr. Jürgen Schupp, Prof. Dr. C. Katharina Spieß, Prof. Dr. Gert G. Wagner, Dr. Silke Anger and Eva Berger.

**Economic Research Center, University of Chicago**

Prof. James J. Heckman, Ph.D., Pia Pinger

**BBQ Berufliche Bildung, Bildungswerk der Baden-Württembergischen Wirtschaft, Stuttgart**

Stefan Küpper, Johannes Krumme, Gerhard Selzer

**Centre of European Economic Research, Mannheim**

Katja Coneus, Philipp Eisenhauer, Prof. Dr. Dr. hc. mult. Wolfgang Franz (Chairman of the Network Committee), Johannes Gernandt, Dr. Andrea Mühlengew, PD Dr. Friedhelm Pfeiffer (Network Coordination), Verena Niepel, Pia Pinger, Karsten Reuß
2. Talks / Discussions


Blomeyer, Dorothea, Childhood temperament: Assessment and Findings from the Mannheim Study of Children at Risk, Inaugural Conference Non-cognitive Skills:
Acquisition and Economic Consequences, ZEW Mannheim, Germany, May 16, 2008.


Gernandt, Johannes, Earnings Prospects for People with Migration Background in Germany, Humboldt University, Berlin, June 19th 2008.


Gollwitzer, Peter M., Chair, "Perceptual consequences of threat and prejudice: Misperceiving weapons and other dangerous objects" (Randy Larson) at the XXIXth International Congress of Psychology, Berlin, Germany, 2008.

Gollwitzer, Peter M., Chair, "Groups as adaptive devices: Free-rider problems, the wisdom of crowds, and evolutionary games" (Tatsuya Kameda) at the XXIXth International Congress of Psychology, Berlin, Germany, 2008.

Gollwitzer, Peter M., Mentor, "Meet your favorite mentor" at the XXIXth International Congress of Psychology, Berlin, Germany, 2008.


Pfeiffer, Friedhelm, Mobility as a dimension of human capital formation, *Pathways to worksite*, University of Paderborn, March 6th 2008.


Reuß, Karsten, Age dependant skill formation and returns to education, Annual Meeting of the Canadian Economic Association, Vancouver, June 6th 2008; Economics of Education Conference, University of Zurich, June 26th 2008.

Reuß, Karsten, Preventative and Remedial Policies to Reduce Lifetime Earnings Inequality in Germany, European Society for Population Economics, June 20th 2008; Annual meeting of the EALE, Amsterdam, September 19th 2008.


3. Papers, Publications


Achtziger, Anja, Fehr, Torsten, Oettingen, Gabriele, Gollwitzer, Peter M., & Rockstroh, Brigitte (in press). Strategies of intention formation are reflected in continuous MEG activity. *Social Neuroscience*.


Blanden, Jo, Steve Machin (2008), Up and Down the Generational Income Ladder in Britain: Past Changes and Future Prospects, *NIESR working paper*.


Blomeyer, Dorothea, Coneus, Katja, Laucht, Manfred and Pfeiffer, Friedhelm (2008), Self-productivity and Complementarities in Human Development: Evidence from


Coneus, Katja, Johannes Gernandt and Marianne Saam (2008), Noncognitive Skills, Internet Use and Educational Dropouts, *ZEW Discussion Paper* No. 08-043.


Gernandt, Johannes and Friedhelm Pfeiffer (2008), Wage Convergence and Inequality after Unification: (East) Germany in Transition, *ZEW Discussion Paper No. 08-022, SOEP Papers No. 107.*


Laucht, Manfred, Katja Becker, Dorothea Blomeyer and Martin H Schmidt (2007), Novelty seeking involved in mediating the association between the DRD4 exon III polymorphism and heavy drinking in male adolescents: Results from a high-risk community sample. *Biological Psychiatry*. 61, 87-92


Pfeiffer, Friedhelm and Karsten Reuß (2008), Intra- und intergenerationale Umverteilungseffekte in der bundesdeutschen Alterssicherung auf Basis humankapitaltheoretischer Überlegungen, *Deutsche Rentenversicherung* 63 (1), 60-84.


4. Mobility / Projects

Anger, Silke, Research stay at the Economics Department of the University of Chicago, July 2008, Research stay at the Scottish Institute for Research in Economics (SIRE) at the University of Edinburgh, October 2008.

Coneus, Katja, Research stay at the SOEP, Berlin, December 2007.

Pinger, Pia, Research stay at the ERC University of Chicago, September 12 – December 12, 2008.

Mühlenweg, Andrea, *Education Economic Measures for the National Educational Panel Study* (NEPS), August to December 2008, funded by the Leibniz University Hannover and the Federal Ministry of Education and Research. In this new project, we support the development of specific questions which will be included in the questionnaire of the "National Education Panel Study" (NEPS). The focus of these questions is on topics which are central in educational economists. For instance, one interest is in investigating the returns to education based on "natural experiments" in the German education system.
5. Conferences, Workshops

Public discussion often focuses on the shortcomings in educational institutions and the spotlight has been particularly trained on the German school system. Recent discussion in the social sciences (led by the Nobel Prize laureate in economics, James J. Heckman) emphasises deficits in noncognitive skills (such as motivation, persistence, self-regulation and social integration) alongside problems related to the formation of cognitive skills (e.g. mathematical skills, memory capacity). Incomplete skill formation can result from poverty, physical violence or neglect in early childhood, as well as school failure, unemployment and social change. In this conference we discussed theories and research methods from different disciplines in order to study noncognitive skills in the modern economy.

- Inaugural Conference Non-cognitive Skills: Acquisition and Economic Consequences, Centre for European Economic Research (ZEW), Mannheim, Germany, May, 15 – May, 17 2008

<table>
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<th>Thursday, May 15</th>
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<tr>
<td>4:00 – 5:00 p.m.</td>
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<td>5:00 – 6:30 p.m.</td>
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<tr>
<td>Welcome Address and Introduction: Wolfgang Franz</td>
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<td>Keynote Lecture: James J. Heckman</td>
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<td>Non-cognitive skills: Acquisition and economic consequences</td>
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<th>Friday, May 16</th>
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<tr>
<td>Session 1, Chair: Winfried Pohlmeier</td>
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<td>9:00 – 9:30 a.m.</td>
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<td>The realization of delayed intentions - Developmental trends and underlying mechanisms</td>
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<td>9:30 – 10:00 a.m.</td>
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<td>Self-control, IQ, and academic achievement in adolescents</td>
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<td>10:00 – 10:30 a.m.</td>
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<td>Self-regulation skills and achievement in university students</td>
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<td>10:30 – 11:00 a.m.</td>
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<p>| Session 2, Chair: Jo Blanden |
| 11:00 – 11:30 a.m. | Seong Hyeok Moon / Rodrigo Pinto |
| Cognitive and noncognitive effects of early childhood intervention: the case of Perry Program |
| 11:30 – 12:00 a.m. | Dorothea Blomeyer / Katja Coneus / Friedhelm Pfeiffer / Manfred Laucht |
| Initial conditions, cognitive and noncognitive skill formation and school outcomes |
| 12:00 – 12:30 p.m. | Ute Bayer / Anja Achtziger / Peter Gollwitzer |
| Stress and self-regulation in freshman at the University of Konstanz |
| 12:30 – 1:30 p.m. | Lunch Break at the ZEW |</p>
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<tr>
<th>Time</th>
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| 1:30 – 2:00 p.m. | **Winfried Pohlmeier and Laura Wichert**  
Noncognitive skills and female labour force participation |
| 2:00 – 2:30 p.m. | **Emma Tominney**  
Test score gaps and non-cognitive skills: Testing for cross-country regularities |
| 2:30 – 3:00 p.m. | **Silke Anger**  
Effects of cognitive and non-cognitive skills on labour market outcomes |
| 3:00 – 4:30 p.m. | Coffee Break, option to visit Mannheim castle & museum |

### Session 4, Chair: **Andrea Mühlenweg**

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<th>Time</th>
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| 4:30 – 5:00 p.m. | **Verena Michalski / Anja Achtziger / Peter M. Gollwitzer:**  
The effects of simple plans under conditions of induced stress |
| 5:00 – 5:30 p.m. | **C. Katharina Spieß**  
First pre-test evidence of the new SOEP childhood survey |
| 5:30 – 6:00 p.m. | **Remi Piatek**  
Measuring the impact of noncognitive skills by structural equation mixture models |
| 6:00 – 6:30 p.m. | **Dorothea Blomeyer**  
Childhood temperament: Assessment and findings from the Mannheim Study of Children at Risk |
| 7:30 p.m. | Dinner, Delta Park Hotel in Mannheim |

### Saturday, May 17

### Session 5, Chair: **Winfried Pohlmeier**

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<tr>
<th>Time</th>
<th>Session Details</th>
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| 9:00 – 9:30 a.m. | **Jürgen Schupp**  
Effects of fine arts’ competencies on educational outcomes |
| 9:30 – 10:00 a.m. | **Richard Layard / Davic Clark / Martin Knapp / Guy Mayraz**  
Cost-benefit analysis of psychological therapy |
| 10:00 – 10:30 a.m. | **Manfred Laucht**  
Longitudinal research into child development from birth to adolescence: Findings from the Mannheim Study of Children at Risk |
| 10:30 – 11:00 a.m. | **Liam Delaney**  
Heart rate variability, bio-markers and non-cognitive skills: Preliminary evidence from a day reconstruction study |
| 11:00 – 11:30 a.m. | Coffee Break |
| 11:30 – 1:00 p.m. | **Keynote Lecture, Goodbye**  
Keynote Lecture: **Peter M. Gollwitzer**  
The power of planning: Effective self-regulation of goal striving |
| 1:00 – 2:00 p.m. | Coffee and Lunch Break at the ZEW |
| 2:00 p.m. | Excursion to Heidelberg (optional) |

- **Summerschool on Self-Regulation** (organized by Anja Achtziger, Research group “Limits of Intentionality”, July 2007, Konstanz)
Pakt für Forschung und Innovation 2008

Proposal to the Senate Committee Competition of the Leibniz Association (SAW)

Proposal for a Research Network

„Non-Cognitive Skills:
Acquisition and Economic Consequences“

Applicant: Centre for European Economic Research (ZEW)

Co-operation partners from the Leibniz Association: German Socio-Economic Panel (SOEP) at DIW Berlin

Co-operation partners from other research institutes: Centre for the Economics of Education (CEE), London School of Economics; Centre for Quantitative Methods and Survey Research (CQMS) & Centre for Research on Intentions and Intentionality (CRII), University of Constance Economics Research Center (ERC), University of Chicago; Central Institute of Mental Health (ZI), Mannheim

Other co-operation partners: Association of the metal and electric industry, SÜDWESTMETALL

Mannheim, 29. September 2006
**Research Needs and Goals**

Public discussion often focuses on the shortcomings in educational institutions and recently the spotlight has been particularly trained on the German school system. Recent discussion in the social sciences (led by the Nobel Prize laureate in economics, James J. Heckman) emphasises deficits in non-cognitive skills (such as motivation, persistence, self-regulation and social integration) alongside problems in the formation of cognitive skills (e.g. mathematical skills, memory capacity). Limited cognitive and non-cognitive skills can result from poverty, physical violence or neglect in early childhood, as well as school failure, unemployment and social change. In light of the perceived importance of non-cognitive skills as part of human capital some commentators are beginning to question whether increased resources should be devoted to helping children develop self-regulation, the capacity of setting and achieving goals and the formation of social skills.

The proposed network connects several disciplines from the social sciences: the economics of education; labor economics; motivational and social psychology; social and motivational neurosciences and econometrics. The aim is to enhance our understanding of skill formation in knowledge-based economies. In particular we want to focus on non-cognitive skills, as in our opinion there is insufficient research in this area. On the one hand skill formation is a central research topic in almost all social sciences and its importance for school and labor market outcomes is usually not contested. On the other hand it is often referred to theoretically and the research and data across different disciplines is rarely brought together.

As non-cognitive skill formation continues from birth until old-age, and feedback effects between labor market, school, family and peer group are important for the individual development, the lack of co-operation and exchange in research is especially unsatisfactory. The co-operation of economic and psychological expertise of leading European research institutions (Centre for the Economics of Education at LSE London, German Socio-Economic Panel Berlin, Centre for European Economic Research Mannheim, Institute for Mental Health Mannheim, the Universities of Constance and Mannheim), especially the research group of James Heckman at the Economic Research Center Chicago and last but not least the Baden-Württemberg employer association Südwestmetall including its educational institutions support the direct practical relevance of the activities of the network.

Complementarities which occur due to interrelated formation of cognitive and non-cognitive skills in the life cycle are not fully taken into account by the traditional economics of education research. This research mainly refers to goal-oriented learned knowledge and a significant effort to fill existing research gaps is necessary. On the one hand, optimal investment strategies in pre-school age have not been sufficiently explored by economists. On the other hand, economic investment aspects are not often taken into account in psychological research approaches. Furthermore existing psychological research in non-cognitive skill formation is highly concentrated on children with disorders such as mental disabilities, speech disorders, autism, and so on. The determinants of non-cognitive skills of children without a concrete disorder are much less explored. For all these reasons we see an urgent need for research into non-cognitive skills.

The proposed network will deal with the analysis of non-cognitive skill formation and its economic consequences. We will focus on individuals from childhood to around ten years after graduation from school or vocational training. All institutions of the research network are working with theoretically sound empirical models and methods (representative panels, representative experiments and laboratory experiments, econometrics, simulations). The objective is to compound psychological and economic data and research to forward the international research network. We would like to find answers to the urgent questions of the integration of adolescents, the accumulation of their human capital and whether the priorities in public educational spending are sound.
The following research questions concerning content and methods summarize the research needs and research objectives (milestones, M) of the proposed network.

**M1**: Multi- and interdisciplinary theoretical analyses of non-cognitive skill formation during the life cycle and their economic consequences. What are the important supporting factors? Are there sensitive stages and influences?

**M2**: Analysis of methods to measure non-cognitive skills and their acquisition. Results are obtained by psychological experiments, micro-econometric analyses of panel data (Germany: German Socio-Economic Panel (SOEP) and the Mannheim Study of Children at Risk, USA: National Longitudinal Survey of Youth (NLSY), UK: National Child Development Study (NCDS), British Cohort Study (BCS) and Millennium Cohort Study (MCS)) and additional simulation models. How can representative surveys, especially the GSOEP be improved to enhance our understanding of non-cognitive skills and the economic importance?

**M3**: Consequences of non-cognitive skills for the formation of cognitive skills, school success (type of school and performance measures) and the transition into working life (wage level and duration of employment).

**M4**: What is the economic and psychological benefit from investments in non-cognitive skills dependent on child age and existing cognitive skills?

**M5**: What are the main important causes for sub-optimal investments in non-cognitive skills in Germany and internationally (compared to the United States and the United Kingdom for example)? What is the impact of low education of the parents, unemployment or increasing wage inequalities for example?

**M6**: What measures support non-cognitive skills and what will be the consequences for labor market and education policy?

**Work program: structure und organisation of the network**

The choice of the network partners from different scientific disciplines is aimed at a close relationship of theoretical and empirical analysis, of academic and non-university research and practical application. Nearly 40 experts from science and practical application in seven research institutions and from Südwestmetall are participating in the network. With the proposed network we would like to initiate new research projects in the field of non-cognitive skill formation and its economic consequences which are not possible without the proposed network. Dynamic growth of the network is guaranteed by the existing research capacities and structures of the network.

More precisely, the following researches and institutions will contribute to the network. Their disciplines and projected research contributions are shortly presented:

- **Anja Achtziger, Peter Gollwitzer, Centre for Research on Intentions and Intentionality (CRII)**
  DFG – Research Group „Limits of Intentionality“, motivational psychology and social psychology, social and motivational neurosciences, University of Constance. Anja Achtziger and Peter Gollwitzer plan to design experiments which are implemented with the help of post-graduates, and which are suitable to explore the development of motivation and self-regulation in various age groups of students. Furthermore they are intended to estimate the effects of interventions, which target the stimulation of motivation and self-regulation of students. The graduate-students Verena Haller and Alexander Jaudas from the Research Group „Limits of Intentionality“ (financed by the German Research Foundation, DFG) and the “Centre for Intentionality” of the department for Psychology at the University of Constance will participate in the proposed network. For the two of them no financing is requested from the Leibniz Association.

- **Jo Blanden, Pedro Carneiro, Stephen Machin, n.n. Centre for the Economics of Education (CEE)**, London, Research in Education and Innovation, Econometrics. The group of international top researchers at the London School of Economics (LSE) plans to analyze the determinants and consequences of non-cognitive skills in the UK. In order to do this they can draw on several longitudinal datasets that include extensive information on noncognitive skills in childhood. These
include the National Child Development Study (NCDS) cohort born in 1958, the British Cohort Study born in 1970 and the new Millennium Cohort Study of children growing up in this decade.

- **James Heckman, Jora Stixrud, Sergio Urzua, n.n. Economics Research Center (ERC) University of Chicago.** Research in Education, Econometrics of Evaluation and Intervention research. The research group of James J. Heckman participates in the proposed network and plans to contribute basic theoretical models on the formation of non-cognitive skills ("skill multiplier", "self-productivity" of skill formation, etc.) and its consequences for human capital during the life cycle. Furthermore this research group plans to do microeconometric analysis of panel data, the National Longitudinal Study for the Youth (NLYS) data for the United States, to empirically assess causes and consequences of non-cognitive skills.

- **Thomas Hinz, Winfried Pohlmeier, Rainer Schnell, Centre for Quantitative Methods and Survey Research (CQMS), University of Constance: Social Sciences, Educational Research, Labor Economics, Econometrics and Survey Research.** The CQMS plans the development of econometric models to empirically estimate the effectiveness of educational investments with heterogeneous abilities, using different data such as PISA and SOEP. Rainer Schnell is – together with Gert G. Wagner – in charge of the DFG Priority Programme „Survey Methodology“ which tests newly designed survey forms, methods, and contents. Furthermore the graduate students Anton Flossmann, Remi Piatek, Derya Uysal and Laura Wichert plan their participation in the proposed network. They are financed by the graduate school of the faculty of Economics and Business Administration and the DFG Research Group “Heterogeneous Labor – Positive and Normative Aspects of the Skill Structure of Labor”, which is located at the University of Constance and the ZEW. For those students no financing from the Leibniz Association is needed. The graduate program of the ZEW (ZEWDocnet) and University of Constance, faculty of Economics and Business Administration, already cooperate to support post graduate education, academic exchange and to promote young researchers. The proposed network will strongly benefit from this cooperation and will significantly enhance its impact.

- **Stefan Küpper, Johannes Krumme, Gerhard Selzer, Association of the metal and electric industry - Südwestmetall.** In this cooperation, Südwestmetall and ZEW plan to scientifically assess a program in vocational training of students from disadvantaged environments. Südwestmetall is going to endeavour after participation and cooperation of the Ministry of Education in Baden-Württemberg. One aim of Südwestmetall's program „START 2000 Plus“ is to improve educational maturity of underprivileged adolescents by supporting their motivation and self regulation. Südwestmetall does not need financing from the Leibniz Association. On the contrary Südwestmetall supports the ZEW and the network with 150.000€ for the years 2008-2010 for scientific evaluation and provides additional financing to compile the data from its educational associates.

- **C. Katharina Spieß, Jürgen Schupp, Gert G. Wagner, German Socio-Economic Panel, Berlin (SOEP) and professors at Free University respectively Technical University Berlin.** The SOEP is the only representative panel study for educational and labor market research in Germany. It can be used for microeconometric analysis of particular non-cognitive skills (e.g. locus of control, reciprocity, risk aversion, time preferences). The SOEP research group, which closely cooperates with the universities in Berlin, perceived the foreseeable research demand in the field of personality and self-regulation and incorporated psychological questions in the yearly surveys (e.g. on the Big Five personality tests, on reciprocity, locus of control). Additionally more adolescents are surveyed and in 2002 a yearly mother-child survey started. In each year the network is planned for, the data stock is growing by one additional wave. The goal of the cooperation with the SOEP is the analysis of the existing survey results and the further development of the psychological survey instruments at the University of Constance. How can results be transferred, for example from surveys of the ZI, which are based on epidemiological methods or those from the psychological experiments at the University of Constance or newer versions of the “Thematic Apperception Test (TAT)”, to improve the SOEP? In this point SOEP, CQMS and ZEW see considerable research needs for Germany, which we would like to meet with the experts from experimental psychology and the survey experts. This methodological research is embedded in the DFG Priority Programme „Survey Methodology“ for which CQMS,
SOEP and the University of Bremen successfully applied (Engel, Schnell and Wagner). Annalena Dunkelberg (psychology and statistics) is going to participate in the proposed network as a doctoral student (without financing by the Leibniz Association).

- **Dorothea Blomeyer, Manfred Laucht, Central Institute of Mental Health (ZI), Mannheim.** The ZI contributes to the proposed network by bringing in its long-time research competence in the field of origin, progression and consequences of psychological disorders of children and adolescents using epidemiological methods. Furthermore they bring in their analytical competence to identify the biological, psychological and social conditioning factors using methods from neurosciences. ZEW and ZI would like promote their cooperation in the network to analyze the importance of early childhood for educational outcomes. In the research project “Mannheim Study of Children at Risk” (Mannheimer Risikokinderstudie) which has been financed by the German Research Foundation (DFG) and the Federal Ministry of Education and Research a cohort of 384 children with different development and environmental risks is followed from birth up to the age of 20 (in seven waves, the actual wave is 2006). ZEW and ZI start their cooperation in November 2006 to prepare the data of the “Mannheim Study of Children at Risk” for this project.

- Katja Coneus, Wolfgang Franz, Johannes Gernandt, Kathrin Göggel, Grit Mühler, Friedhelm Pfeiffer, Karsten Reuß, Maresa Sprietsma, Centre for European Economic Research (ZEW), Mannheim. The ZEW contributes to the network with its long-time experience in labor market research and educational research (e.g. based on a long-time experience in exploiting the SOEP), in scientific counselling and in the formation of international and interdisciplinary research networks. The proposed network benefits from the long-time cooperation of ZEW researchers with the CEE London, the SOEP Berlin, the Nobel Prize Laureate James J. Heckman, the University of Constance, and the proximity to the internationally well-known ZI in mental health research, located in Mannheim. Further ZEW researchers who plan to participate in the network are Andreas Ammermüller as well as Anja Kuckulenz and Michael Maier as members of the DFG research group “Heterogeneous Labor – Positive and Normative Aspects of the Skill Structure of Labor”, a joint project ZEW University of Constance.

Sustainable research possibilities are provided by the combination of the worldwide leading position of the psychologists of the University of Constance, the internationally top data quality of the German Socio-Economic Panel, the high quality scientific research concerning skill formation in the life cycle of James J. Heckman’s and the Central Institute of Mental Health and the strengths of CEE and ZEW in the field of empirical and institutional labor market and educational research. This intensifies the dialogue between psychology, economics and practical application within the framework of an international network and stimulates future research.

Further structural characteristics of the proposed network are:

- The network is designed as an open network, open also to external researchers. Furthermore we want to integrate young researchers and support the exchange of researchers to promote doctoral and post-doctoral qualification. Graduate students are supervised by professors at distinctive locations. We would like to give them the possibility to start long-term co-operations. For example students from the graduate school of the University of Constance will do research at ZEW, CEE and the University of Mannheim and vice versa.

- Research results are going to be exchanged by regular guest lectures and network conferences. Four conferences are planned with different priorities: K1 Mannheim (ZEW/ZI: disciplines, theories, methods), K2: University of Constance (psychology, experiments, life cycle), K3: Berlin (SOEP: measurement methods in representative panel surveys) and K4: London (CEE: economics, econometrics, consequences).

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1 The ZEW is looking for future co-operations. For example we discussed collaboration with the Knowledge Research Media Centre (KRMC) in Tübingen. This Leibniz Institute is very open to co-operation in the field of education but does not want to participate in the network as non-cognitive skills are not part of the core research fields of the institute.
The activities should contribute independently to support academic exchange and will be evaluated internally. The chairman of the planned network committee will be Professor Dr. Dr. h.c. mult. Wolfgang Franz, president of the ZEW.

The ZEW in its function as initiator of the network will create new positions from the year 2008 on. Further jobs and their facilities will also be provided by the participating institutions as already mentioned above.

### Summary of institutions and researchers:

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<th>Researchers</th>
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<td>Chicago</td>
<td>Flavio Cunha, James Heckman*, Jora Stixrud, Sergio Urzua</td>
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<td>Kathrin Göggel, Michael Maier, Friedhelm Pfeiffer§, Maresa Sprietsma</td>
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* signers of the co-operation partners  § coordination, person in charge

### Milestones (M#: milestone, K#: network conference)

The research results will be publicly discussed in the joint research conferences, in separate or joint workshops (W) and they will be made available in the discussion paper series of the particular institutes and universities. They will be submitted to relevant scientific journals. Furthermore we plan to publish central new research results in a volume of the „ZEW Economic Studies.“

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Short review of existing research and own previous work

Human skill formation is a fundamental research topic in nearly all social sciences. Education and a good educational system do have positive effects for the integration into the labor market, the wage level and the professional career (summarizing Franz, 2006). Econometric models of skill formation and labor supply consider the heterogeneity of individual skills but often neglect the origin and formation of this heterogeneity (for one exception regarding self-regulation see Benabou and Tirole, 2004). Research results from neurobiology and developmental psychology show that very early experiences do have long-range consequences for school and labor market success (among others: Knudsen, Heckman et al., 2006, Laucht et al., 2005). Children, who are exposed to a stimulating family environment, seem better able to integrate and be more successful in school and in their professional career. Children from disadvantaged environments grow up with lower investments in their skills often experience further failures (e.g. due to negative self-efficacy when children are told at home that “there is no use” to try hard because they “won’t go up the social ladder anyway”). The role of non-cognitive skills in hindering social mobility is discussed in Blanden et al (2006), where 20 percent of the relationship between parental income and children’s later earnings is explained by the connection between parental background and the level of non-cognitive skills.

The development of intelligence (cognitive skills) has been researched intensively. Longitudinal studies imply that differences in intelligence measured around the age of 10 are highly consistent over the life cycle. In order for an individual to be able to exploit his cognitive skills, motivation and self-regulation, non-cognitive skills are necessary to some extent (among others Achtziger und Gollwitzer, 2006). How non-cognitive skills are acquired is the topic of the proposed network. For the latest developments in the survey of non-cognitive skills in a panel context see Schupp and Wagner (2006), for economic consequences of reciprocity see Brown, Fehr and Falk (2004). While unemployment and its economic reasons in Germany (see among others Franz and Pfeiffer 2006) and the long-time individual effects of youth unemployment have been widely analyzed by the applicants and at the ZEW (see among others Franz 2006, Franz et al. 1999), non-cognitive skill acquisition in early childhood and its economic consequences is the planned research topic in this proposed international and interdisciplinary research network.


