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Special Issue Editorial

Among the most salient challenges many educational systems are facing today are the heterogeneity of children's prerequisites and the question of how this diversity can be adequately dealt with. In light of the substantial variability of students' prerequisites a rising concern in educational debates refers to those children who seem to be less well equipped to master the demands of formal education and may run the risk of not attaining the educational outcomes needed for full participation in society (Hasselhorn et al., 2014, 2015). The reasons why children fail at school are manifold (Freeman & Simonsen, 2015). They include individual characteristics such as biological constraints (e.g., limited memory or attention resources) or insufficient skills or competencies (e.g., language or literacy deficits, socio-emotional dispositions) as well as contextual factors relating to children's immediate environment (e.g., family, neighborhood or peers) or the broader societal context (e.g., educational institutions, societal circumstances; Hasselhorn et al., 2015).

To support the development of these children at risk and to improve their learning in an adaptive way, three complementary strategies are deemed necessary. First, the early identification of children to whom these risk factors apply is seen as one of the most important steps in supporting their academic development (Barry & Reschly, 2012; Freeman & Simonsen, 2015). Thus, reliable diagnostic procedures need to be developed and applied to identify risk factors as early as possible. Second, the specific obstacles that at-risk children face in their regular classrooms need to be identified and dealt with by providing adaptive learning environments that are suited to cater for heterogeneous learning groups (Klieme & Warwas, 2011; Corno, 2008). Third, additional intervention programs that go

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beyond the classroom context and that address children's specific needs have to be developed, evaluated and improved (e.g., Balfanz, Herzog & Mac Iver, 2007; Freeman & Simonsen, 2015).

All these approaches are inconceivable without taking into account educational and psychological theories on children's development and detailed empirically-based knowledge on the emergence and consequences of the named risk factors. This special issue therefore targets this question by presenting research that investigates individual antecedents of possible school failure and evaluates intervention programs that may be suited to support these children at risk.

All the research presented is connected with the interdisciplinary research center *Center for Research on Individual Development and Adaptive Education of Children at Risk* (IDeA) in Frankfurt am Main, Germany. The IDeA centre unites researchers from psychology, educational research, psychoanalysis, sociology, and subject teaching methodology who are concerned with identifying and supporting children at risk of poor academic outcomes (see Hasselhorn, Hartmann, Reuße & Gold, 2014; Hartmann, Hasselhorn, & Gold, in prep.). The papers presented in this special issue provide a cross-section of the multifaceted research carried out within this framework. This research demonstrates the various theoretical and methodological approaches that can be used to tackle the question of how to provide support for students at risk. The first contribution by Irit Bar-Kochva, Orit Gilor and Zvia Breznitz[1] (2016) focuses on a special group of at-risk students, namely dyslexic children, and examines the information processing mechanisms underlying reading difficulties. Their experimental study showed specific deficiencies of dyslexic readers in the area of word representations, which provides important information for designing adequate interventions for dyslexic children. Reading difficulties are also the topic of the second contribution by Telse Nagler, Janosch Linkersdörfer, Jan Lonnemann, Marcus Hasselhorn, and Sven Lindberg (2016) who investigated whether poor reading speed and comprehension in third graders can be enhanced by a fading procedure of text presentation on a computer screen. The results provide first evidence that a slow fading rate is productive for poor readers' reading performance. However, it seems to be important to figure out the most effective fading rate since fading rates that are too fast or too slow do not increase poor readers' reading comprehension. The third contribution by Janin Brandenburg, Anne Fischbach, Andju Sara Labuhn, Chantal Sabrina Rietz, Johanna Schmid, and Marcus Hasselhorn (2016) brings together two risk factors that research to date has rarely combined: It investigates the difficulties of diagnosing learning disorders among language minority students. In a prevalence study, the authors examined disproportionate representation of language-minority students among children identified with learning disorders. Whereas no disproportionate representation was revealed for arithmetic learning disorders, overidentification of language-minority students was found in reading disorders, spelling

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[1] Very sadly, Zvia Breznitz passed away during the time that this issue was completed. With this publication, we also wish to honour her as a highly esteemed colleague.

disorders, and in the mixed disorders of scholastic skills. The fourth contribution by Jasmin Decristan, Mareike Kunter, Benjamin Fauth, Gerhard Büttner, Ilonca Hardy, and Silke Hertel (2016) examines ways of supporting at-risk students within in regular classrooms. Their study on the effects of instructional quality in elementary science classrooms showed that high instructional quality, as indicated by efficient classroom management and positive social climate, has specific compensatory effects on children from immigrant families or on those with low cognitive abilities. Whereas the first four papers focus on students' academic attainments, this special issue also includes research on children's socio-emotional development. Meanwhile, Andreas Schick and Manfred Cierpka (2016) present work on aggression and describe factors influencing the occurrence of aggressive behavior in children and adolescents. They present evaluation findings from the intervention program *Faustlos* (a German version of the Second Step program) which has consistently yielded very positive effects in reducing aggressive behavior in schools. The *Faustlos* program also features in the article by Marianne Leuzinger-Bohleber, Katrin Luise Läzer, Nicole Pfenning-Meerkötter, Verena Neubert, Bernhard Rüger, and Tamara Fischmann (2016), which presents findings from an early intervention study targeting kindergarten children from disadvantaged social backgrounds. The study for which preliminary results are shown compares the effects of *Faustlos* with the *Early Steps* program which is based on psychoanalytical principles.

When compiling these contributions we explicitly invited researchers from different disciplines and theoretical backgrounds who focus on various socio-economical, socio-emotional, cognitive or neuro-cognitive risk factors as well as different outcomes (literacy, academic achievement or social behavior). In doing so, we hope to encourage a cross-disciplinary discussion on how heterogeneity in schools can best be addressed and how empirical research can contribute to providing the best possible support to children in risk groups.

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