**Literacy Studies:** Perspectives from Cognitive Neurosciences, Linguistics, Psychology and Education

Pelusa Orellana García
Paula Baldwin Lind *Editors*

# Reading Achievement and Motivation in Boys and Girls

## Field Studies and Methodological Approaches

Springer

# Literacy Studies

Volume 15

While language defines humanity, literacy defines civilization. Understandably, illiteracy or difficulties in acquiring literacy skills have become a major concern of our technological society. A conservative estimate of the prevalence of literacy problems would put the figure at more than a billion people in the world. Because of the seriousness of the problem, research in literacy acquisition and its breakdown is pursued with enormous vigor and persistence by experts from diverse backgrounds such as cognitive psychology, neuroscience, linguistics and education. This, of course, has resulted in a plethora of data, and consequently it has become difficult to integrate this abundance of information into a coherent body because of the artificial barriers that exist among different professional specialties.

The purpose of this series is to bring together the available research studies into a coherent body of knowledge. Publications in this series are of interest to educators, clinicians and research scientists in the above-mentioned specialties.

Some of the titles suitable for the Series are: fMRI, brain imaging techniques and reading skills, orthography and literacy; and research based techniques for improving decoding, vocabulary, spelling, and comprehension skills.

More information about this series at http://www.springer.com/series/7206

Pelusa Orellana García • Paula Baldwin Lind
Editors

# Reading Achievement and Motivation in Boys and Girls

## Field Studies and Methodological Approaches

Springer

*Editors*
Pelusa Orellana García
School of Education
Universidad de los Andes
Las Condes, Chile

Paula Baldwin Lind
Institute of Literature
Universidad de los Andes
Las Condes, Chile

ISSN 2214-000X ISSN 2214-0018 (electronic)
Literacy Studies
ISBN 978-3-319-75947-0 ISBN 978-3-319-75948-7 (eBook)
https://doi.org/10.1007/978-3-319-75948-7

Library of Congress Control Number: 2018936743



Printed on acid-free paper

This Springer imprint is published by the registered company Springer International Publishing AG part of Springer Nature.
The registered company address is: Gewerbestrasse 11, 6330 Cham, Switzerland

# Foreword

Reading is important, because if you can read, you can learn anything about everything and everything about anything

Tomie dePaola[1]

At the end of the year 2014, the Research Department at Universidad de los Andes (Chile) launched a call for grant proposals called *Fondo de ayuda a la investigación* (*FAI*) in priority areas that the university was interested in addressing. At that time, all the project proposals had to deal with the study of gender differences from an interdisciplinary perspective. It was then that we – the editors of this book, Dr. Pelusa Orellana and Dr. Paula Baldwin – decided to apply to this fund, considering previous research that we had developed on reading motivation in boys and girls, but mainly because we wanted to contribute to this field of education by publishing studies carried out in Chile, as well as in different parts of the world. Our project was selected and finally awarded funding for two years (2015–2016), during which we worked at three different levels: doing field work and data collection in sixteen schools in Santiago de Chile where we observed reading lessons and administered part of the Motivation to Read Profile (MRP; Gambrell et al. 1996) to 1290 pupils from the third, fourth, and fifth grade (from 9 to 11 years old) from nine of these schools. The data collected was useful not only for our research, but also because we could validate Gambrell et al. questionnaire in Spanish. We also organized meetings and seminars with national and international experts to analyze and discuss yet unresolved issues regarding gender as a variable that could have an impact on reading motivation and achievement, and presented papers at international conferences. Finally, we invited scholars and researchers to publish their studies in a book that could be distributed worldwide. This volume is one of the results of our work and was made possible thanks to the Springer Education team and the Research Department at our university. It aims to address the question of whether gender is a

[1] Tomie de Paola, "Why Reading Is Important?", available at https://www.youtube.com/watch?v=7epT0qUaaX4

significant variable in the constructs of reading motivation and achievement; thus, whether this should be addressed when planning and designing teaching methodologies. This publication also shows relevant findings at different levels and countries, which shed light for further research on the areas already mentioned.

Much of the research on children's reading has focused on cognitive processes; however, reading is an activity that also requires interest and motivation. These attitudes are generally defined as readers' affect toward reading, and their consequence is that children with more positive attitudes are more motivated to read. Researchers report that girls hold more positive views than boys toward reading; they have also found that girls often have stronger competence beliefs in reading than do boys, and they value it more (Marsh 1989; Wigfield et al. 1997). In addition, Wigfield and Guthrie (1997) report that girls do not only provide more social reasons for reading, but also give more importance to two specific dimensions of reading motivation: self-efficacy and importance associated with reading. On the contrary, boys have higher mean scores on the competition dimension (McKenna et al. 1995).

Taking into account the variability that exists within the notion of gender and age, the studies presented in this book aim to examine and scrutinize previous research on the topic, as well as to test theories on how the different dimensions of reading motivation vary with gender in relation to cultural issues, motivational constructs such as engagement and classroom climate, the role of emotions, interests, and attitudes toward reading, among others.

This volume shows our specific interest in the link between theoretical and instructional approaches, particularly on how reading is motivated and assessed, as well as on how much variation in reading can be accounted for by motivation when language and cognitive factors have been controlled.

The list of authors/contributors (included after the Table of Contents) shows the variety of backgrounds and expertise of the academics involved in this project. We strongly believe that the different types of studies presented by the researchers whose chapters are the result of a completed project, or whose work is at an initial state of a current investigation, contributes to strengthen and widen both the scope of the study and the book's readership, as this volume will interest scholars, researchers, schoolteachers, and postgraduate students working in the areas of literacy, reading motivation and engagement, reading achievement, and gender differences.

The book is divided into three sections, which are introduced by a theoretical analysis on motivation from a psychological perspective, although the author of this chapter also deals with the influence that both biological and environmental factors may have on motivation. The main objective of this introduction is to summarize research on the development of motivation from infancy to adolescence, which can help understand the developmental trajectories for this attitude and its relation to learning. In the first section – Theoretical Approaches: Current Issues on Boys' and Girls' Reading Motivation and Achievement – the authors discuss issues and problems regarding divergent, and sometimes contradictory, conclusions that studies as far back as the nineteenth century have reached with respect to the differences between boys and girls in reading achievement.

In the first chapter, "The Consequential Effects of Misinterpretations and Misrepresentations on Boys' and Girls' Reading Achievement and Motivation," the authors show that there are two tendencies regarding reading achievement in boys and girls: those who claim that girls are superior to boys in reading comprehension, and those who claim no differences. Apart from the fact that a boy/girl gap varies depending on which skill related to reading is tested, when the focus is put exclusively on the underachievement of boys in reading (in general), or, on the contrary, on well-achieving girls, these beliefs may affect pupils' enthusiasm and commitment, thus erode their motivation to read.

The second chapter, "Contextual Influences on Girls' and Boys' Motivation and Reading Achievement: Family, Peers, and Society," examines how family, peer, and cultural contexts may influence children's motivation (e.g., Chiu et al. 2012). The author argues that children in families with higher socioeconomic status (SES) often have more capital (human, financial, cultural, and social) that provide for more learning opportunities and greater motivation, on which they can capitalize to learn more (Chiu 2015). However, some aspects of family capital benefit boys more while other aspects benefit girls more. For example, higher SES families yield greater increases in educational resources and reading achievement for boys than for girls (Chiu and McBride-Chang 2010). On the other hand, greater cultural possessions or cultural communication at home increases the reading interest and reading achievement of girls more than that of boys (Chiu and Chow 2010). This chapter also addresses the influence of peers and cultural context on reading motivation and its relationship to reading enjoyment, more reading, and more discussion of books.

In "The Influence of Instruction on Reading Motivation in Finland," the third chapter of this book, the author explains gender differences in the development of interest in reading which starts at the very beginning of schooling. She argues that teachers and their instruction – especially high-quality classroom interactions – provide an important environment for children's learning and motivation. For example, educational contexts that allow children autonomy to initiate tasks and complete them, without applying strict performance criteria, have shown to strengthen children's interest in reading; conversely, a stricter and more didactic approach, emphasizing correct answers and particular modes of learning, may lead to a waning of the children's intrinsic motivation and interest in learning situations (Guay et al. 2001; Guthrie et al. 2000; Lerkkanen et al. 2012; Stipek et al. 1995). The chapter as a whole describes the extent to how teaching practices and the quality of teacher-child interaction observed in classrooms influence children's motivation in reading, particularly with boys and children at-risk in highly transparent Finnish language context.

The fourth chapter in this section, "To What Extent Is Reading Motivation a Significant Predictor of Reading Achievement When Controlling for Language and Cognitive Ability? A Systematic Review," deals with cognitive and emotional factors that impact reading ability and explores how much variation can be accounted for by motivation, when cognitive and linguistic aspects can be controlled. The author argues that the wide spectrum of factors theoretically associated with motivation and the variety of methods used to assess it make it difficult to generalize on

the impact of reading motivation on reading ability. Studies show that the amount of variation which is attributed to motivation is contingent on several individual, cultural, linguistic, and emotional factors, among which are age, gender, and verbal ability. In order to find evidence regarding the extent to which motivation can, in fact, be a strong predictor of reading performance, the researcher examines recent literature (i.e., from 2000 to the present) about studies in which motivation has been acknowledged as a significant contributor to reading ability, and discusses these findings, in an attempt to better understand the variability of such impact when linguistic and cognitive ability predictors have been controlled.

The second section, which is dedicated to field studies, presents four chapters dealing with reading motivation in pupils from a wide variety of backgrounds. In "Young Children's Motivation to Engage in Social Aspects of Reading," the authors present findings from several decades of research which underscore the importance of motivation in the literacy development of students in grades three and beyond (Guthrie et al. 1996; Wang et al. 2011). However, they claim that relatively little attention has been devoted to exploring motivation to read for students in kindergarten through second grade, particularly struggling readers, and to possible gender differences in young children's reading motivation. This chapter is the result of a research study that was completed in 2015 when the investigators administered the "Me and My Reading Profile" (Marinak et al. 2014) to 50 students in the United States who were struggling readers in grades K-2; they also interviewed 6 children at each grade level, using matched pairs of boys and girls. Based on this data, the investigators go beyond prior research on factors related to the reading motivation of children in grades K-2, which confirmed the importance of self-concept and the appreciation of the value of reading (Eccles 1983; Wigfield et al. 2007). They argue that a more recent study revealed a third factor of importance: Literacy Out loud (Marinak et al. 2014). This factor was related to more social aspects of reading such as reading out loud to others and talking with others about books, elements that seem to be relevant in the case of boys who appear to be more sensitive to the social dimensions of reading than girls.

The behavior of Chilean students with respect to reading motivation is approached in the sixth chapter: "Reading Motivation and Achievement Among Chilean Boys and Girls in Grades 3, 4, and 5: An Exploration of Results and Pedagogical Implications" in which the two researchers show the results of a study carried out from 2015 to 2016. They analyzed the motivation and reading achievement performance of 1290 pupils in grades 3, 4, and 5 at two time periods, in order to explore both their reading ability and motivation. In the first case, they applied a silent reading comprehension assessment tool that takes into consideration reading ability to provide Lexile measures for individual students; to measure the second variable they administered part of Gambrell et al.'s (1996) Motivation to Read Profile to determine group differences in readers' self-concept and value of reading across gender, socioeconomic status, and grade levels. Findings showed that reading motivation decreases in the case of boys (both for the construct of self-concept and value of reading), whereas for girls it only decreases for value of reading and slightly increases for self-concept, particularly in fifth grade.

The seventh chapter is set in a very different background and it is called "Chinese Middle Schools' Reading Motivation." Having as an objective to explore the role reading motivation plays in Chinese middle school students as compared to those in the West, in terms of their cultural frame, this study employs a mixed-methods approach to investigate reading motivation of these students in Taiwan. A total of 88 ninth-grade students (47 boys and 41 girls) participated voluntarily by completing the Chinese Motivation for Reading Questionnaire (CMRQ). In addition, six teachers and five parents were selected for the interviews. The descriptive statistics showed the mean scores for self-efficacy, intrinsic motivation, extrinsic motivation, and social motivation were 2.81, 2.89, 2.60, and 2.41, respectively. A multiple linear regression, a zero-order correlation statistical analysis, showed that Chinese students placed greater value on grades and social recognition. Content analyses showed that teachers and parents' expectations and beliefs, and instructional practices, as well as social/educational contexts, influenced Chinese students' reading motivation. In particular, the hierarchical testing system is still strongly ingrained in Chinese middle schools where reading for social recognition and competition appear to have a primary role in Chinese students' motivation to read. Gender differences in reading were found in this study.

The second section ends with the eighth chapter, "Boys' Reading Skills and Attitudes During the First Six School Years," in which the authors analyze primary school pupils' reading skills and attitudes toward reading in Finland, thus concluding that girls have better reading skills and more positive attitudes than boys. However, they point out that boys' confidence in their reading skills is high and that they assess their skills better than they actually are. Boys have negative opinions on reading, especially while on-task during literacy lessons and homework. Therefore, teachers should consider the kind of tasks and reading materials that would interest them. The researchers argue that today textbooks are still a central source of information in content area classes. Reading comprehension tests in both history and natural sciences show that, in sixth grade, boys have special difficulties in understanding these contents. They suggest that it would be necessary to use other types of reading materials and to teach reading comprehension strategies that help pupils understand the contents of the textbooks. Finally, they show that there is a strong correlation between pupils' self-esteem, reading attitudes, and reading comprehension skills; furthermore, pupils who have good self-esteem have a positive attitude toward reading and good reading comprehension skills.

The third and final section in this volume – Methodological Approaches to Reading Motivation – includes three chapters that provide ideas on methodologies and strategies that can enhance reading motivation and achievement in boys and girls. The ninth chapter, "Literacy Achievement and Motivation Reconsidered: Linking Home and School Literate Practices for Struggling Adolescent Males," focuses on a case study that shows literate practices a low-achieving male adolescent reader – a biracial urban 10th grader with a history of academic failure and an active participant in the "mediasphere" (O'Brien 2001). The author argues that male youth, like this boy, are using and creating forms of discourse that could be acknowledged and appreciated in school settings. He asserts that when room is made in

school for boys' out-of-school interests and literacies, numerous opportunities arise for engaged reading (Brozo 2010; Brozo and Gaskins 2009; Coles and Hall 2001). Moreover, because engagement is a critical variable in the reading and academic lives of boys (Brozo and Gaskins 2009; Tatum 2006), lack of engagement with literacy is one of the most significant factors in accounting for boys' lower attainment in relation to girls (Brozo et al 2014; Lietz 2006a, b). Finally, the author concludes that there are texts and practices capable of reaching disengaged and struggling male readers, and that teachers can discover the literate practices male youth engage in with alternative texts and media beyond the classroom walls, such as music and graphic novels, and weave these texts and practices into their instructional routines.

The tenth chapter, "Motivation and Comprehension Instruction: The Case of the Roadrunner Reader Inquiry Kits," reviews studies on children's motivation to read and its relations to children's reading comprehension. They discuss an instructional approach focused on inquiry (Fairbanks 2000) to address the needs of students who struggle with learning to read. The authors describe the process they used to design dubbed "inquiry kits," which are curricular materials that provide teachers instructional spaces to engage students and meet their basic needs related to autonomy, competence, and relatedness (Ryan and Deci 2009). This development process involved the consideration of an instructional model that was oriented around a "big idea" (topic) connected to a message of social justice (Freire 1971). They conclude the chapter with examples of the ways in which these kits have been used to support the instruction of students who struggle with learning to read.

According to the eleventh chapter, "Teaching Today the Readers of Tomorrow," effective literacy instruction is the result of the strategic combination of relevant research contributions from diverse fields of education. Neuroscience has shed light to understand how the brain learns so that we can develop teaching practices aligned to brain-based learning. Cognitive psychology allows us to explain gender differences that explain why boys and girls think, communicate, and behave differently. She argues that significant studies completed by the Early Literacy Reading Panel, the National Research Council, and the National Reading Panel inform us about the essential components of literacy instruction and when these should be taught. In addition, she suggests that the compilation of these solid research findings inform the how, why, what, and when of effective literacy instruction so that we can design early intervention programs and a variety of instructional approaches that can successfully address reading motivation and literacy achievement in boys and girls. Therefore, she concludes that at the twilight of the twenty-first century, it is a moral imperative and an educational challenge to use this research-based information to teach today the readers of tomorrow.

Conclusions in each chapter show the wide scope and impact of the research carried out by each author or group of authors on the development and improvement of reading motivation and achievement in boys and girls worldwide. Most studies provide new evidence that sheds light, questions, and at the same time, reassesses previous research and data on the relevance of defining the variables and determining the specific skills involved in reading performance and comprehension that may

cause more or less difficulty to boys and girls. Almost every study refers in one way or another to the importance of avoiding general and non-evidence-based statements regarding the boy/girl gap in reading achievement, or focusing exclusively on the underachievement of boys or on well-achieving girls because, as demonstrated in many of the chapters, these beliefs may not only hinder reading motivation, but also ignore that the gap between boys and girls will vary depending on which skill related to reading is tested.

Readers of the twenty-first century are confronted with yet another challenge, which is the access to multimodal texts. Most children are engaged in online reading on a permanent basis. Research has shown that specific reading skills are necessary for reading and understanding these kinds of texts, which usually are highly interactive. Research findings about the extent to which online reading improves intrinsic motivation are mixed. We do not yet know the long-term effects of online reading on a child's desire to continue reading beyond the school years. On the other hand, some studies have demonstrated no significant differences on reading motivation when reading ebooks versus reading printed text (e.g., Long and Szabo 2016). However, reading on the web is a dynamic process in which readers interact with multiple text sources, genres, pictures, audio, and activities (Lewis 2000, p.3). Online reading not only challenges one's capacity to focus but may also demand other behaviors such as persistence and perseverance, which are strongly related to intrinsic motivation. While none of the chapters addresses multimodal reading and motivation directly, some authors remind us of the importance of looking at reading motivation in the context of the digital world. Findings about how reading motivation changes in digital contexts can help better understand the instructional implications that must be considered for intrinsic motivation to flourish.

Findings from recent studies indicate that many readers tend to choose not to read because they find it difficult, or because they have a low level of confidence in their reading ability (Nielen et al. 2017). This is in line with what is reported in some of the chapters of the current volume. Having a strong positive self-concept helps students avoid giving up when texts become challenging or when reading tasks are boring. Students, especially young readers, need the support and affective encouragement that teachers, other adults, or even digital pedagogical agents, as Nielen et al. suggest, "to foster sustained effort during reading" (2017, p. 2).

Reading properly and understanding what we read opens the door to knowledge and experience of the world, and paves the professional future of our children. If, as dePaola states, we want our students to "learn anything about everything and everything about anything" (WeGiveBooks) through reading, we need to provide them with the best reading environment and opportunities we can, so that they have a positive concept of themselves as readers and value this ability; thus, they will be intrinsically moved to read more and better books.

Autumn, 2017 The editors

## References


Brozo, W.G. (2010). To be a boy, to be a reader: Engaging teen and preteen boys in active literacy (2nd ed.). Newark, DE: International Reading Association.

Brozo, W.G., & Gaskins, C. (2009). Engaging texts and literacy practices for adolescent boys (pp. 170–186). In K. Wood & W. Blanton (Eds.), *Literacy instruction for adolescents: Research-based practice*. New York, NY: Guilford.

Brozo, W.G., Moorman, G., & Meyer, C. (2014). *Wham! Teaching with graphic novels across the curriculum*. New York, NY: Teachers College Press.

Chiu, M.M. (2015). Family inequality, school inequalities and mathematics achievement in 65 countries: Microeconomic mechanisms of rent seeking and diminishing marginal returns. *Teacher's College Record*, *117*(1), 1–32.

Chiu, M.M., & Chow, B. W.-Y. (2010). Culture, motivation, and reading achievement. *Learning and Individual Differences*, *20*, 579–592.

Chiu, M.M., McBride-Chang, C., & Lin, D. (2012). Ecological, psychological, and cognitive components of reading difficulties: Testing the component model of reading in fourth graders across 38 countries. *Journal of Learning Disabilities*, *45*(5), 391–405.

Coles, M., & Hall, C. (2001). Breaking the line: New literacies, postmodernism and the teaching of printed texts. *United Kingdom Reading Association*, *35*(3), 111–114.

Fairbanks, C. (2000). Fostering adolescents' literacy engagements: "Kid's business" and critical inquiry. *Reading Research and Instruction*, *40*(1), 35–50.

Freire, P. (1971). *Pedagogy of the oppressed*. New York: Continuum.

Gambrell, L.B., Palmer, B.M., Codling, R.M. & Mazzoni, S.A. (1996). Assessing motivation to read. *The Reading Teacher*, *49*(7), 518–533. Retrieved from http://www.jstor.org/stable/20201660

Guay, F., Boggiano, A.K., & Vallerand, R.J. (2001). Autonomy support, intrinsic motivation, and perceived competence. Conceptual and empirical linkages. *Personality and Social Psychology Bulletin*, *27*, 643–650.

Guthrie, J.T., Wigfield, A., & von Secker, C. (2000). Effects of integrated instruction on motivation and strategy use in reading. *Journal of Educational Psychology*, *92*, 331–341.

Marinak, B.A., Malloy, J.A., Gambrell, L.B., & Mazzoni, S.A. (2015). Me and My Reading Profile: A tool for assessing early reading motivation. *The Reading Teacher*, *69*(1), 51–62

Marsh, H.W. (1989). Age and sex effects in multiple dimensions of self-concept: Preadolescence to early adulthood. *Journal of Educational Psychology*, *81*, 417–430.

McKenna, M.C., Kear, D.J., & Ellsworth, R.A. (1995). Children's attitudes toward reading: A national survey. *Reading Research Quarterly*, *30*, 934–955.

Lerkkanen, M.-K., Kiuru, N., Pakarinen, E., Viljaranta, J., Poikkeus, A.-M., Rasku-Puttonen, H., Siekkinen, M., & Nurmi, J.-E. (2012). The role of teaching practices in the development of children's interest in reading and mathematics in kindergarten. *Contemporary Educational Psychology*, *37*, 266–279.

Lewis, R. B. (2000). *Project LITT (Literacy Instruction through Technology): Enhancing the reading skills of students with learning disabilities through hypermedia-based children's literature (Final Report)*. San Diego, CA: San Diego State University, Department of Special Education.

Lietz, P. (2006a). A meta-analysis of gender differences in reading achievement at the secondary school level. *Studies in Educational Evaluation*, *32*, 317–344. doi:10.1016/j.stueduc.2006.10.002

Lietz, P. (2006b). Issues in the change in gender differences in reading achievement in cross-national research since 1992: A meta-analytic view. *International Education Journal*, *7*(2), 127–149.

Long, D., & Szabo, S. (2016). E-readers and the effects on students' reading motivation, attitude and comprehension during guided reading. *Cogent Education*, *3*(1) 1–11.

Nielen, T.M.J., Smith, G.G., Sikkema-de Jong, M.T., Drobisz, J., van Horne, B., & Bus, A.G. (2017, May). Digital Guidance for Susceptible Readers: Effects on Fifth Graders' Reading Motivation and Incidental Vocabulary Learning. *Journal of Educational Computing Research*, *0* (0), 1–26. Retrieved from https://doi.org/10.1177/0735633117708283

O'Brien, D.G. (2001). "At-risk" adolescents: Redefining competence through the multiliteracies of intermediality, visual arts, and representation. *Reading Online*, *4*(11). Retrieved from http://www.readingonline.org/newliteracies/lit_Index.asp?HREF=/newliteracies/obrien/index.html

Ryan, R. M., & Deci, E. L. (2009). Promoting self-determined school engagement: Motivation, learning, and well-being. In K. R. Wentzel & A. Wigfield (Eds.), *Handbook on motivation at school* (pp. 171–196). New York: Routledge.

Stipek, D., Feiler, R., Daniels, D., & Milburn, S. (1995). Effects of different instructional approaches on young children's achievement and motivation. *Child Development*, *66*, 209–223.

Tatum, A.W. (2006). Engaging African American males in reading by providing meaningful reading material and encouraging honest debate, teachers can help African American adolescent males embrace the power of text. *Helping Struggling Students*, *63*(5), 44–49.

Wang, M., Willett, J., & Eccles, J. (2011). The assessment of school engagement: Examining dimensionality and measurement invariance by gender and race/ethnicity. *Journal of School Psychology*, *49*, 465–480.

[WeGiveBooks]. (2010). Tomie dePaola: Why reading is important. [Video File] Retrieved from https://www.youtube.com/watch?v=7epT0qUaaX4

Wigfield, A., & Guthrie, J.T. (1997). Relations of children's motivation for reading to the amount and breadth of their reading. *Journal of Educational Psychology*, *89*(3), 420–432.

# Acknowledgments

Books are always the result of enormous contributions from many, many individuals, and there is always the danger of forgetting one or several of them. We begin by expressing our gratitude to our families who generously gave up family time for us to work on drafts and countless revisions. We would also like to thank each of the authors and coauthors in this volume for their willingness to embark in this project. We are aware of how much time was spent preparing manuscripts, revising, and editing back and forth. The multiplicity of their perspectives is one of the major contributions that this book makes to the field of reading research in motivation.

We would also like to thank the Research Department at Universidad de los Andes (Santiago, Chile) for helping us with several logistic aspects in the process of editing the book. We are especially grateful to Professor Orazio Descalzi, Ph.D., for his encouragement in carrying out this endeavor and telling us not to give up. Likewise, we are grateful to the Springer Editorial Board, particularly to Helen van der Stelt and Jolanda Voogd, for all their support in making sure the volume addressed the topics that would be of interest to researchers in the field. They were also patient with drafts, deadlines, and changes throughout the process, especially Ms. Sindhuja Gajendran, Springer Project Manager, for her editing work. Professors Annjeannette Martin, Ezia Valenzuela, Maria Francisca Valenzuela, and Kattia Muñoz, from Universidad de los Andes, helped us significantly to review manuscripts and provided invaluable feedback. Fellow researcher Melody Kung, Ph.D., was also involved in revision processes and we are grateful for her work as well. A special thanks to project research assistants Beatriz Conte and Montserrat Cubillos, for collecting, cleaning, and analyzing data in our project.

Finally, we are especially grateful to Beatriz Rengifo Ottone, our assistant editor, for spending countless hours going over manuscripts, reference lists, and biographical sketches. Without her help, this book would not have become a reality.

The editors

# Contents

# List of Contributors

**Paulina Arango** is an Assistant Professor at the School of Psychology, Universidad de los Andes, Santiago, Chile. She holds a Ph.D. in Psychology, Pontificia Universidad Católica (Chile), and is a Psychologist from the Universidad Pontificia Bolivariana (Medellín, Colombia). Her research interests include clinical child neuropsychology, cognitive-behavioral therapy, brain and cognitive development, language and music cognition, and cognitive assessment based on games and technology.

**Juli-Anna Aerila** is a Mother Tongue and Literature Teacher and completed her Ph.D. in Education at the University of Turku, Finland. Her most relevant publications, mostly coauthored with Marja-Leena Rönkkö, include research works in the areas of literature in education, picture books, and the learning process and creativity. She currently works as a Senior Lecturer at the University of Turku, Finland, Department of Teacher Education, Rauma Unit.

**Paula Baldwin Lind** is a Researcher and an Associate Professor at the Institute of Literature, Universidad de los Andes, Santiago, Chile. She holds a Master of Studies in English (1550–1780) from the University of Oxford and a Ph.D. in Shakespeare Studies from the Shakespeare Institute at the University of Birmingham, England. Her publications include articles on the translation and adaptation of William Shakespeare's works, of which she has cotranslated with Braulio Fernández Biggs, *The Tempest* (2010), *Twelfth Night* (2014), and *King Lear* (2017) into Spanish. In the field of education, she has taught several courses on literature and reading methodologies at the Faculty of Education at Universidad de los Andes (Chile) and published articles on reading motivation.

**Liliana Borrero Botero** holds a Master's degree in Elementary Education, University of Alabama, Overseas Program Bogotá site, Colombia. She obtained a Bachelor of Science degree in Psychology at Universidad de los Andes, Bogotá, Colombia, and a number of Post-Baccalaureate Certificates in Teacher Leadership at Lehigh University at the Bogotá site, Colombia; in Neurolinguistic Programming

at the Sociedad Colombiana de PNL, and Child and Adolescent Psychopathology at Universidad Autónoma de Barcelona, Spain. She is currently the Schools of Excellence Coordinator, providing assistance to the School Director in the implementation of AdvancED's Schools of Excellence protocols and standards for quality schools, school improvement process, and curriculum monitoring and oversight.

**William G. Brozo** is a Professor of Literacy in the Graduate School of Education at George Mason University in Fairfax, Virginia (USA). He earned his Bachelor's degree from the University of North Carolina and his Master's and Doctorate from the University of South Carolina. He has taught reading and language arts in the Carolinas. He is the author of numerous articles on literacy development for children and young adults. His international work includes projects from the Balkans to the Gulf and on ELINET, a pan-European literacy network. He has also been a contributor to the UNESCO–Brookings Learning Metric Task Force and member of the PISA 2018 Assessment Framework Committee. His research focuses on adolescent literacy, content area/disciplinary literacy, literacy assessment, and the literate lives of boys.

**Ming Ming Chiu** is a Chair Professor of Analytics and Diversity at The Education University of Hong Kong. He earned his Bachelor's degree in Computer Science at Columbia University, Master's degree in Interactive Technology at Harvard, and Ph.D. in Education at UC-Berkeley (USA). He serves on the advisory board of mainland China's Ministry of Education's National Evaluation of Primary and Secondary Schools.

**Katherine Corbett** is an undergraduate student in the Travel and Tourism program at Clemson University (USA).She has mentored students at Pendleton Elementary School and Clemson Elementary School for the Clemson University America Reads Program. She has held executive positions for the Special Olympics Chapter at Clemson University.

**Linda B. Gambrell** is a Distinguished Professor of Education in the Eugene T. Moore School of Education at Clemson University (USA), where she teaches graduate and undergraduate literacy courses.Her major research areas are literacy motivation, the role of discussion in teaching and learning, and comprehension strategy instruction. She has authored/coauthored 18 books and over 100 chapters and journal articles on literacy. She currently serves as coeditor of *Reading Research Quarterly*. In 2004, she was inducted into the Reading Hall of Fame, and in 2014, she received the Clemson University Alumni Award for Outstanding Research Achievement.

**Pelusa Orellana García** is a Professor and an Associate Dean for Research at the School of Education, Universidad de los Andes, Santiago, Chile. She holds an M.A. in Instructional Leadership from the University of Alabama, and a Ph.D. in Education (Early Childhood Families and Literacy) from the University of North

Carolina at Chapel Hill. Her publications include books and book chapters about the use of the Socratic Seminar to enhance reading motivation, and articles about reading diagnosis and reading instruction. Over the past 5 years, she has worked on Dialect, a reading diagnosis platform designed to assess Spanish reading ability in K to fourth-grade students in Chile, and has recently earned a grant to scale up this project across Latin America.

**Denyse V. Hayward** is an Assistant Professor in Educational Psychology at the University of Alberta (Canada). She began her professional career as a speech-language pathologist working in clinical and educational settings to support young children with speech and language delays. She completed her doctoral studies at the University of Alberta (Faculty of Rehabilitation Medicine) specializing in narrative comprehension in young children with and without language impairments. Following her doctorate, she completed two postdoctoral fellowships.

**Suhua Huang** completed her Ph.D. in Reading and Literacy Education at the University of Oklahoma (USA). She is an Associate Professor of Reading and Literacy Education at Midwestern State University, Texas, USA. Some of her research projects deal with teacher education, special education, and preschool education.

**Koti Hubbard** is a Ph.D. student in the Language, Literacy, and Culture Program at Clemson University (USA), specializing in early literacy development. She received a degree in early childhood education and a Master's degree in literacy education from Clemson University. Her background is in early childhood education, working in school settings with differing student demographics. Her research interests focus on early childhood writing development, struggling readers, and literature response and discussion.

**Lorraine A. Jacques** is a Ph.D. student in the Learning Sciences Program at Clemson University (USA). Her main research interest is in the development of mathematical literacy through the use of digital tools. Lorraine is currently involved in research projects on disciplinary literacy and developing reading skills in low-achieving middle school students.

**Marja-Kristiina Lerkkanen** Ph.D., is a Professor of Education at the Department of Teacher Education, University of Jyväskylä, Finland. Her research focus includes individual, family, and teacher factors contributing to children's academic learning and motivation. She has been interested in developmental trajectories of young children's reading and math skills and the effects of motivation, teacher-student relationships, and teacher-parents partnership to child's learning. She is involved in interventions for supporting literacy skills development by computer games and iPad apps and also teacher interventions supporting teacher-child interaction, motivation, and engagement in classrooms in Finland, Estonia, and African countries.

**Karen Loerke** has been an educator for over 30 years. She received her Ph.D. in 2012 from the University of Alberta (Canada) with a focus on Literacy and Language Acquisition. Currently, she teaches English Language Arts in the Faculty of Education at the University of Alberta alongside her work as the ERLC Implementation Support Consultant focusing on literacy.

**Tuula Merisuo-Storm** is a Primary School Teacher, Master of Education, and completed her Ph.D. in Education at the University of Turku, Finland. Her most relevant publications, coauthored with Marjaana Soininen, are in the area of reading comprehension skills in primary school pupils. She has published numerous articles on students' first language skills after years in bilingual education, reading materials, and exercises to encourage reluctant boys to read, among others. She is currently a Researcher at the University of Turku, Finland, Department of Teacher Education, Rauma Unit.

**Sylvia Minton** Ph.D., is a Visiting Assistant Professor of Literacy Education in the Department of Interdisciplinary Learning and Teaching at the University of Texas at San Antonio (USA). Her research interests include the nature of peer coaching and the social construction of knowledge among educators. Additional interests include literacy coaching as a means of professional development and the analysis of pictorial devices and semiotics in picture books as it relates to children's meaning-making.

**Linda M. Phillips** Ph.D., is a Centennial Professor and Director of the Canadian Centre for Research on Literacy at the University of Alberta (Canada). She has published over 210 books, articles, and chapters in the areas of reading, science and mathematics education, philosophy, cognitive psychology, and magnetic resonance in medicine. She has received 47 awards for her exemplary research, teaching, and service. She has served as senior editor of the *Handbook of Language and Literacy Development: A Roadmap from 0 to 60 Months*, as well as on the editorial boards of *Alberta Journal of Educational Research*, *Canadian Journal of Education*, *English Quarterly*, *Journal of Reading Behavior*, and *Reading Research Quarterly*. She served as Canadian International Representative for the National Reading Conference Field Council Committee, as an International Coordinator, National Reading Conference, and as a member of IRA's Literacy Research Panel.

**Leslie Roberts** is a Ph.D. student in the Language, Literacy, and Culture Program at Clemson University (USA).Prior to entering the doctoral program, she received a degree in elementary education and a Masters of Education degree from the University of Florida. Her background is in elementary education, but she has also worked for many years in middle-level education.

**Misty Sailors** Ph.D., is a Professor of Literacy Education at The University of Texas at San Antonio (USA) in the Department of Interdisciplinary Learning and Teaching. Dr. Sailors' scholarly pursuits center on the areas of literacy tools found in

elementary classrooms, the professional development of reading teachers and literacy coaches, local and international reading program development, and reading research methodologies. She currently serves as the editor of the *Journal of Literacy Research* and is a member of the International Literacy Association's Literacy Research Panel and the Standards Revision Committee.

**Teresa Sellers** holds an M.A. Ed., and is a doctoral student in the Department of Interdisciplinary Learning and Teaching (ILT) at the University of Texas at San Antonio (UTSA). For 12 years, she taught at a Hispanic serving institution of higher education. Recently, she returned to the elementary setting where she is employed as a master teacher. Her work as a master teacher involves supporting in-service teachers through professional development and literacy coaching.

**Paul A. Schutz** Ph.D., is a Professor in the Department of Educational Psychology at the University of Texas at San Antonio (USA). His research interests include the nature of motivation and emotion, the influence of emotional experiences on teachers' identity development, research methods, and issues related to race and social justice. He is a past president for Division 15: Educational Psychology of the American Psychological Association and a former coeditor of the Educational Researcher: Research News and Comment, a lead journal for the American Educational Research Association.

**Alicia Villarreal** M.A. Ed., is a doctoral candidate in the Department of Interdisciplinary Learning and Teaching (ILT) at the University of Texas at San Antonio (USA). She is the research coordinator for *La Plaza de Lectura* and is a reading specialist, master teacher, and program developer. Mrs. Villarreal's work has centered on literacy education, specifically interactive read-alouds and semiotics in picture books.

**Marcy Wilburn** is a researcher, instructor, and literacy coach at the University of Texas at San Antonio in San Antonio, Texas.She holds a Master of Arts in Education with a concentration in literacy from the University of Texas at San Antonio, USA.

# Chapter 1
# Motivation: Introduction to the Theory, Concepts, and Research


**Paulina Arango**

**Abstract** Motivation is a psychological construct that refers to the disposition to act and direct behavior according to a goal. Like most of psychological processes, motivation develops throughout the life span and is influenced by both biological and environmental factors. The aim of this chapter is to summarize research on the development of motivation from infancy to adolescence, which can help understand the typical developmental trajectories of this ability and its relation to learning. We will start with a review of some of the most influential theories of motivation and the aspects each of them has emphasized. We will also explore how biology and experience interact in this development, paying special attention to factors such as: school, family, and peers, as well as characteristics of the child including self-esteem, cognitive development, and temperament. Finally, we will discuss the implications of understanding the developmental trajectories and the factors that have an impact on this development, for both teachers and parents.

**Keywords** Motivation · Achievement · Motivational theories · Influences on motivation

## 1.1 Introduction: What Are We Talking About When We Talk About Motivation?

Since ancient times, humans have been asking questions about our own beliefs and behaviors. What makes us behave the way we do? Why can't we seem to control some urges and impulses? Why are some people better at controlling their own behavior than others? Why are we more interested in some activities and topics than in others? How is it that we can spend our time doing some things but we cannot get ourselves to do others? In summary, what motivates us?

P. Arango (✉)
Escuela de Psicología, Universidad de los Andes, Santiago, Chile
e-mail: parango@uandes.cl



P. Orellana García, P. Baldwin Lind (eds.), *Reading Achievement and Motivation in Boys and Girls*, Literacy Studies 15,
https://doi.org/10.1007/978-3-319-75948-7_1

Motivation is a widely used concept in psychology and in education. However, its definition is not always clear. One general definition of motivation is the drive or disposition to act and direct behavior according to a goal (Dörney and Ushioda 2013). We often associate the term motivation with the internal and (or) the external forces that make people engage in certain activities and persist on doing them, and also what makes people refrain from doing other activities (Eccles and Wigfield 2002). Motivation then, is present in all areas of our lives and influences behaviors related to our hobbies, learning, relationships, and habits.

Motivation has properties that include initiating a behavior and maintaining it, as well as the intensity with which the behavior is carried out and the amount of effort that we invest in it (Dörnyei and Ushioda 2013). Motivation triggers or makes us behave, both covertly (like changes in heart rate) and overtly. It also helps us persist in a task, even when it is difficult and the chances of success are low, or when there is no immediate reward for doing it. Finally, motivation modulates the intensity of the engagement in a task, and the amount of effort we put in it (Petri and Govern 2012).

Although in general we all have an idea of what the term motivation means, there is no standardized, unique accepted definition or theory of motivation in psychological science (Kleinginna et al. 1981). All definitions and theories about the concept refer to what influences human behavior, but each theory emphasizes some aspects, and none has managed to cover all possible influences. Some authors have paid more attention to internal aspects like cognition, emotions, or needs, while others have focused on external influences like reinforcement or environment. In recent years, with the advances in neuroscientific methods, research has focused on the brain processes and areas involved in motivated behavior (Ernst et al. 2006). In the next section, we are going to present an overview of some of the most influential theories on motivation.[1]

## 1.2 What Lies at the Root of Motivation? A Brief Review of Theories

Although the question about what makes us act as we do is as old as humanity, the theories about motivation are relatively recent in the history of psychology. In this section, we will provide a brief review of the aspects that have been studied as central components of motivation from the point of view of the authors that have worked on them. For this chapter, we will divide theories of motivation into three groups: (1) theories about instincts, drives, needs, and reinforcements; (2) theories about beliefs, values, and goals; and (3) neuroscientific and neuropsychological approaches.

[1] This is not intended to be an exhaustive review of motivational theories. For a more detailed review see: (Dörnyei and Ushioda 2013; Eccles and Wigfield 2002; Wentzel and Miele 2009; Wigfield et al. 2007).

### 1.2.1 *Theories About Instincts, Drives, Needs, and Reinforcements*

Historically, motivation was first understood in terms of instincts, drives, and needs, as biological forces that are innate for the species and direct behavior in order to survive and to maintain or regain homeostasis. These theories see behavior as an automatic response to internal or external forces (i.e. reinforcement) that motivate it.

The first of these theories, the Instinct Theories, state that all species are born with specific innate knowledge about how to survive, with tendencies preprogrammed in their genetic material that will guide specific behaviors needed for the survival of the species. Instinct theories understand that in the root of motivation for many behaviors is the need to survive (McDougal 1908; James 1963). These theories see motivated behaviors as adaptations to environmental conditions, which bias the members of the species to respond in particular ways to changes in the environment (Buss 2008).

In the first half of the twentieth century, Sigmund Freud proposed the psychoanalytic theory, perhaps one of the most well-known theories of what motivates human behavior. Freud's work has influenced for many years the way in which human behavior has been understood. The psychoanalytic theory suggests that behavior is motivated by two basic psychological drives. The first is *Eros*, the life drive, which motivates us to survive. The second one is *Thanatos*, the death drive, which motivates us to prevent destruction. Those drives are unconscious instincts and at the core of human behavior lies the conflict between the person's instincts and cultural expectations. To Freud (e.g. 1920) we are oriented to satisfy instincts in order to maintain a steady internal state, and culture tries to regulate behavior according to social expectations and norms. Human behavior then, is motivated by these two forces in conflict, and by the innate drives to avoid damage and to survive.

The drive theory, first proposed by Woodworth (1918), says that motivated behavior appears in response to changing bodily needs that lead us to look for things in the environment to reduce the drive. Clark Hull (1943) stated that humans have internal biological needs that drive behavior in a way that results in satisfaction or fulfillment of these needs, maintaining a steady state in the body. Hull defines these needs as internal states of arousal or tension that must be reduced, and the motivation for human behavior is to reduce these drives so that we can maintain a sense of internal calmness. Hull also proposed that humans learn from behaviors motivated by biological drives and habits. He proposed a formula for calculating motivation in which motivation or behavior equals Drive by Habit (Motivation or Behavior = Drive x Habit). For him, motivation is biologically determined in its root, but can be derived from what the subject has learned through experience.

Humanistic theory is perhaps the most widely used theory of motivation. According to this theory, humans are driven to achieve their maximum psychological growth, but in order to obtain it they need to meet more basic needs like hunger, sleep, housing, safety issues and interpersonal relationships. These needs become obstacles that we have to solve to achieve higher demands. Abraham Maslow (1943)

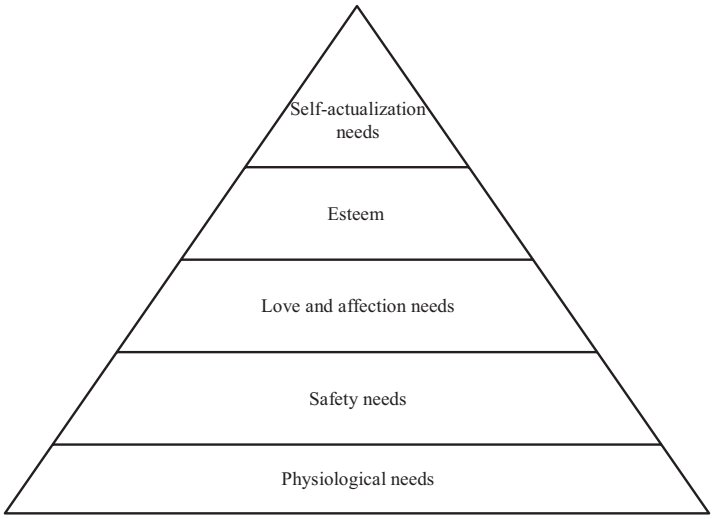


**Fig. 1.1** Adapted with permission from: Maslow, A.H., A theory of human motivation, *Psychological Review*, *50*(4), 370–396, 1943. Publisher: American Psychological Association

proposed the theory of hierarchy of needs and stated the relative importance of different kinds of needs in a person's life, and its influence in motivated behavior. He argued that basic human drive or motivation ultimately reflected a need for self-actualization, i.e. to become all that the person is capable of becoming, to use their full potential. Maslow proposed a hierarchy of needs that humans have to fulfill before being able to gain self-actualization (see Fig. 1.1). On the lower level of the pyramid are the physiological needs, which include the requirements for survival like food, sleep, and shelter. If the first needs are relatively well gratified, then the second level of the pyramid, the safety needs, emerges. These needs include personal and financial security, health and well-being. The third level of the pyramid refers to love needs, which include the need for love, affection, and sense of belonging to social groups. The fourth level is composed by esteem needs that refer to the desire for a stable, firmly-based, and high evaluation of themselves, for self-respect or self-esteem, and for the esteem of others. Finally, if the basic needs are satisfied, the need for self-actualization emerges. According to Maslow, it is really hard to achieve full self-actualization (most people cannot) and it motivates us to be creative and to try to be the best person we can. Self-actualization means a complete understanding of who you are, a sense of completeness, of being the best person you could possibly be.

Another group of well-known theories come from the behavioral tradition, which understands motivated behavior as a reaction to the environment. The classical conditioning theory (Pavlov 2003) states that some behaviors are elicited as reflexes from stimulus on the environment (like salivation in the presence of food), while other behaviors are learned by the simultaneous presentation of an unconditioned

stimulus with a neutral one. For this theory, motivation has a biological origin that can be generalized to other kind of stimulus by association.

Thorndike (1927) highlighted the importance that the consequences of a certain response have on future behavior. He proposed the law of effect that states that of two equal situations, those associations that lead to a state of satisfaction are more probable to be learned. Based on this law, B.F. Skinner (1963) developed the operant conditioning theory that focuses on the impact of consequences to motivate the repetition or avoidance of certain behaviors, and states that behavior is driven by its consequences. If there is a positive consequence to a behavior, it will be reinforced and the probability of the behavior being repeated increases. On the other hand, if the behavior is followed by a negative consequence (punishment) there is a lower probability that it will be repeated. According to this theory, behavior is motivated by the individual's attempts to obtain a desirable consequence or to avoid an undesirable one. This theory has had a great influence on psychology and education and its principles are widely used in several contexts to teach new behaviors and manage difficult behaviors.

### *1.2.2 Theories About Beliefs, Values, and Goals*

The second group of theories about motivation considers that the processes that influence motivation in humans are under control of the individual. These theories explore the impact that beliefs about competence, evaluations about control over behavioral outcomes, expectancies, and affect have on motivation over difficult tasks and over performance (Eccles et al. 1998; Pintrich 2003). Also, this group includes theories that focus on the goals that people have, both general and specific, their values and interests, and how they influence motivation and preferences towards certain activities (Wigfield et al. 2006).

The social cognitive model of learning and development, developed by Albert Bandura considers that people are not driven by inner forces or automatically controlled by the environment, but that individuals are contributors to their own motivation, behavior, and development, within a network of reciprocally interacting influences (Bandura 1986, 1991, 1999). A central aspect of this model is the concept of self-efficacy that is defined as the confidence about how well I can organize and execute courses of action to deal with future situations with ambiguous, unpredictable and stress-producing elements (Bandura 1997; Bandura et al. 2001). Self-efficacy includes different kinds of expectations. The first kind refers to the expectations of efficacy; the conviction that a behavior can be successfully performed, that one could perform the behaviors needed to achieve something. The second kind is the expectation of results, which refers to the estimation that a behavior will lead to certain outcomes. For this author, the expectations of efficacy influence motivation the most, and people generally prefer goals they believe themselves capable of performing, and avoid activities that they feel incapable of performing.

Locus of control theories focuses on expectancies for control of reinforcements; what a person believes will determine whether or not they get reinforced in life (Rotter 1966). According to this theory, beliefs about control can be classified along a continuum from very internal to very external. People with a strong internal locus of control believe that the responsibility for the outcomes of events in their lives relies in themselves, and that success or failure is a consequence of their own efforts. People in the extreme of the external locus of control believe that external forces like luck or chance control the outcomes, and that they have little impact on the reinforcement they receive. A person's interpretation of control over situations will then determine how they act in those situations and the emotional reactions to their outcomes.

After the work of Rotter, other authors have incorporated control as part of their theories or have further elaborated the concept. Connell (1985) for example, proposed a third belief of control, unknown control, which has an effect on a person's motivation towards a task. Ellen Skinner (Skinner 1995; Skinner et al. 1988) defined control beliefs as the expectations that a person has about whether or not they can produce desired events, and proposed that beliefs about control are one of three critical beliefs for motivation. The second are the means-ends beliefs, which are related to the expectations that an event will produce a certain outcome. Finally, agency beliefs are related to the person's expectations about whether they can access the means to produce certain outcomes.

The attributions theory, developed by Weiner et al. (Weiner 1985; Weiner et al. 1987) also incorporates the locus of control construct, and has been very influential in the understanding of motivation in the last decades. This theory focuses on how interpretations of the reasons for success or failure in an event affect motivation for future events. Weiner identified that the most frequent achievement attributions relate to ability, effort, task difficulty, and luck. These attributions can be classified in three causal dimensions. First, we find the locus of control, which can be internal (control comes from the person) or external (control comes from external factors). The second dimension is stability and refers to whether or not the causes of an event change over time. The third dimension, controllability, assesses if the causes of the event are under one's control or not. Attribution theory considers how the person's interpretation of the outcomes of a situation, and not the outcomes or the consequences themselves, increases or decreases motivation and has affective consequences (Eccles and Wigfield 2002).

Another set of theories from this group focuses on the intrinsic and extrinsic factors that affect motivation. Vallerand (1997) developed a hierarchical model of intrinsic and extrinsic motivation and defined intrinsic motivation as the personal interest for doing a task because it gives pleasure and satisfaction. Extrinsic motivation involves performing a behavior to obtain an external reward or to avoid punishment. This model considers a third kind of motivation: amotivation, or the lack of any kind of motivation. The three kinds of motivation can be represented along three hierarchical levels of generality: (1) the global level represents the general orientation to interact in one of the three kinds of motivation; (2) the contextual level represents the person's motivation in specific contexts; and (3) the

situational level refers to how the person engages in an activity in a particular situation and time.

The self-determination theory proposed by Deci and Ryan (2000, 2002b) states that in order to understand goal-directed behavior we need to understand the goal's content external to the person and the regulatory processes through which they are pursued. For these authors people have a basic need for competence, a need to feel that they have the capacity to achieve what they want to achieve. Also, people have a need for autonomy, to feel that they are free to follow their inner interests. Finally, there is a need for relatedness; the need to establish significant relationships with other people and to feel that they have their support. For these authors, those three needs direct intrinsic motivation and self-determined behavior and have to be met for a healthy development (Deci and Ryan 2002b; Ryan and Deci 2002).

Although Deci and Ryan included goals in their theory, they focused primarily on the regulatory processes of intrinsic motivation. Other authors such as Pintrich (2000) and Linnenbrink (2005) focus on the goals and their impact on the subject's motivation. This theory is called the goal-orientation theory, and explains motivation on the basis of the individual's goal orientation, particularly for learning, and considers that there are two types of orientation that people can adopt towards their goals: mastery orientation and performance orientation. Mastery-oriented people focus on mastering, learning and understanding the content or task. In performance orientation, the person focuses on being better than others at the task and avoiding being seen as less competent than others. These orientations are seen as more or less adaptive or effective, depending on the task or the situation the person is facing (Harackiewicz et al. 1998; Pintrich 2000).

While the goal-orientation theory focuses on how the person's orientation towards the task affects their motivation, other authors consider that motivation may be influenced by goals not directly related to the task (Wentzel 2000; Wentzel et al. 2010). Wentzel has specifically worked on achievement and learning motivation and considers that the person's goals can be related to other aspects of the situation that are different from learning, like making friends, pleasing the teacher or following rules.

Another influential theory in this group is Atkinson's achievement motivation theory or expectancy-value theory (Atkinson 1957; Atkinson and Raynor 1978). The first author states that behavior is motivated by the desire to meet or exceed a certain standard of excellence perceived by the individual. This need develops in the first years of life as a result of parents' expectations and how they reward independent actions. For Atkinson, achievement behaviors are motivated by the person's expectancies of success and incentive values, as well as for an intrinsic need of achievement and a fear of failure. Atkinson sees achievement motivation as a personality trait and links the subject's performance, persistence, and choices to its expectancy-related and task-value beliefs.

Based on Atkinson's work, Eccles and colleagues (e.g. Eccles-Parsons et al. 1983) developed the expectancy-value model of achievement-related choices (see Fig. 1.2). This model focuses on the influence that expectancies and values have on task choices, performance, and persistence. It also considers personal characteristics,

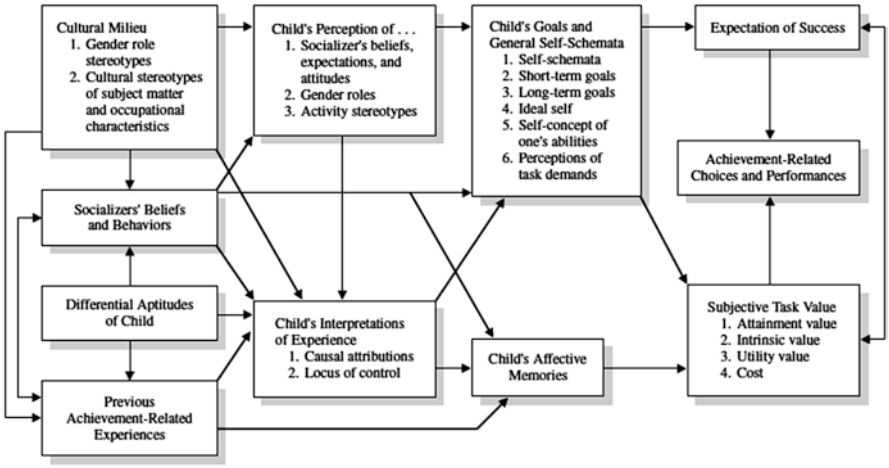


**Fig. 1.2** The Expectancy Value Model of Achievement from Eccles and colleagues (Reproduced from Wigfield et al. 2006). Reproduced with permission of the Licensor through PLSclear

values, and beliefs as the motivators for people to choose a particular task over others, having an impact on how they perform in them, and if they persist in spite of the difficulties. In turn, expectancies and values are influenced by beliefs that are task-specific (e.g. beliefs about ability), the perceived difficulty of the task, and the person's goals, self-schemas, and affective memories (Wigfield and Eccles 2000). This model considers four motivational components of task values: (1) attainment value, defined as the personal importance of doing well on the task and the relevance of engaging on the task for self-schemata; (2) intrinsic value, or how much the person enjoys the task, their subjective interest in it; (3) utility value, which refers to how well a task relates to the person's goals, current present and future; and (4) cost, defined as the negative aspects of engaging in the task, the amount of effort needed to succeed, and the things the person loses by choosing the task (Eccles and Wigfield 2002; Wigfield et al. 2006). Eccles and colleagues have done extensive research that has shown the importance of these values for motivation in the school and performance in the different areas (e.g. Eccles 1987; Eccles et al. 1998).

### *1.2.3 Neuroscientific and Neuropsychological Approaches*

In recent years there has been an increasing body of research on motivation in the neuropsychology and neuroscience fields. The interest of these disciplines is to understand the cognitive and neural processes that lie at the core of motivated, goal-directed behavior and decision-making. In recent decades, the progress in both behavioral and direct research techniques, has favored research in these areas and

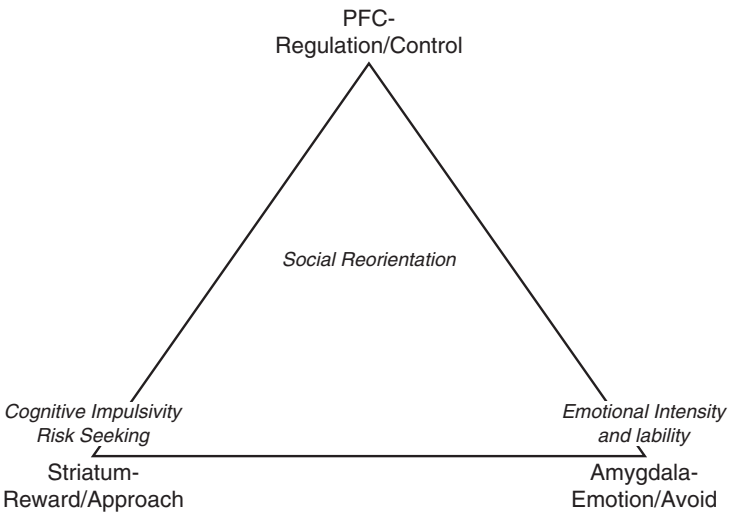


**Fig. 1.3** The Ernst and colleagues' Triadic Model (Reproduced from Ernst 2014). Reprinted from Brain and Cognition 89, Ernst, M., The triadic model perspective for the study of adolescent motivated behavior, pp.104–111, Copyright (2014), with permission from Elsevier

has allowed us to have evidence about the role played by several neural structures and networks in motivated behavior (Dörnyei and Ushioda 2013).

The somatic marker theory developed by Damasio and colleagues (Bechara et al. 2000; Damasio et al. 1996) focuses on the processes involved in decision-making, and proposes that when we face a task we use cognitive and emotional processes that let us decide according to the choices we have. The emotional processes depend on somatic markers (emotional changes) triggered by the amygdala for innately valence stimuli, or by the prefrontal cortex for learned valence stimuli. Somatic markers produce emotional states that direct attention towards some options over others, according to our biological preferences and previous rewarding experiences, and they facilitate decision-making.

Another relevant theory that focuses on the cognitive and neural processes at the basis of motivation is the triadic model proposed by Ernst and colleagues (Ernst 2014; Ernst and Fudge 2009; Ernst and Paulus 2005; Ernst et al. 2006; Ernst et al. 2009). This model proposes that motivated behavior is the result of three distinct behavioral/neural systems that overlap and work together in balance (see Fig. 1.3). The first system relies on ventral striatal circuits, particularly the nucleus accumbens, and supports approach behavior and reward processes. The second system relies on amygdala circuits and supports avoidance behavior. Finally, the third system relies on the medial prefrontal cortex and is considered the regulatory system that modulates approach and avoidance responses. As was stated earlier, motivated behavior includes both the initiation of behavior and its avoidance, and this model explains motivation from the coordinated functioning of these three systems.

The review of theories presented in this chapter is far from being exhaustive, but provides enough information for the reader to get an idea of the different points of view from which motivation has been studied. In the following sections, we will address some of the factors and models presented in this previous section. In particular, we will review some of the central discussions in the area, and then move on to the contextual factors that impact motivation and its development.

## 1.3 Debates on Motivation

As mentioned above, motivation has been understood and studied from several different points of view. Some of these views seem to be contradictory, while others overlap. As it has happened in other areas of psychology, there have been some discussions about the nature and the origin of motivation (Dörnyei and Ushioda 2013; Wigfield et al. 2006). The following section focuses on three central discussions: (1) Is it Nature or is it Nurture?; (2) Is motivation internal or external?; and (3) Is motivation an automatic or a cognitive process?

The Nature/Nurture debate is one of the classical discussions in psychology. We already presented some theories that emphasize biological tendencies that motivate behavior, and other theories that emphasize environmental factors like behavioral theories. Psychological science now considers that genetics and biological factors, as well as environmental influences, have an impact on behavior, and that both kinds of influences interact to produce the phenotypes we see and study (Coll et al. 2014). However, we still do not know exactly how biology and genetics interact with the environment in every individual in order to motivate behavior, thus more research is needed in this field. The next section reviews research on the main contextual factors that have an impact on the development of motivation: family, school, and peers.

The second debate refers to whether the source of motivation is internal or external to the person. Some theories, like those that consider needs as the basis for motivation, think that the sources of motivation are intrinsic to the person. Other theories, like those based on goals, think that what causes behavior is external to the person; that motivation can be activated by changes in the external environment. This is still in discussion today, but there are some theories that consider both internal and external sources of motivation like the self-determination theory (Deci and Ryan 2002b).

The last point of discussion focuses on whether motivation is an automatic or a cognitive, rational process. As was mentioned earlier, the more recent theories of motivation give a lot of importance to cognition and the fact that the thinking, rational, and purposive person makes decisions about his/her own behavior. On the other hand, more biological theories consider that there are internal, biological states that trigger genetically determined behaviors. Given the complexity of human behavior, it is difficult to assure that it is caused solely as an automatic response to changes in the environment. However, we cannot assert either that all

human behaviors are delivered or that they always follow a careful decision-making process.

Understanding human behavior and what motivates it has been a long process that is far from being over. As stated earlier, there are a lot of theories that have tried to explain it, but none of them has been able to explain motivated behavior in its whole complexity. All of them have explained parts of this problem and most of them have good evidence. They have helped the understanding of certain behaviors in specific situations, but others give better explanations for other kinds of behaviors. In summary, there are several good explanations about motivation and in order to fully understand human behavior we will need to start working on unifying theories of motivation.

## 1.4 Influences on Motivation

Human behavior happens in a context with physical, psychological and cultural characteristics that impact cognition, behavior, and achievement (Ushioda 2007), therefore, there is a significant interest in the study of motivation and how we can change contexts to influence motivation. This area of study has focused mainly on the influence of the environment on motivation, including different contexts like family and school, as well as the impact of peers in motivated behavior. Even with all the evidence in favor of considering the impact that context has on motivation, we cannot forget that those factors are constantly interacting with our personal characteristics like self-esteem, gender, cognitive development, and temperament. The following section focuses on the contextual influences of motivation, and because the focus of this book is in reading achievement and motivation, we will focus in achievement motivation.

### *1.4.1 Parental Influences*

Parents are perhaps the most influential figures in a child's life. Research on the influence of parents on motivation has shown several direct and indirect ways in which parents' behavior, goals, beliefs, values, and practices, as well as sociodemographic characteristics of the family and its environment, can impact achievement orientation and motivation in children and adolescents. For example, Eccles and colleagues (Eccles 1993; Eccles and Harold 1993; Wigfield et al. 2006) proposed a model that summarizes parental influences on children's motivation and achievement, and the possible relations between these components (see Fig. 1.4). These authors include five types of influences in their model: (1) demographic characteristics of the parents, the family and the neighborhood, like family income, parental education and occupation, marital status, ethnicity and resources in the neighborhood; (2) characteristics of the child and siblings, like gender, temperament,

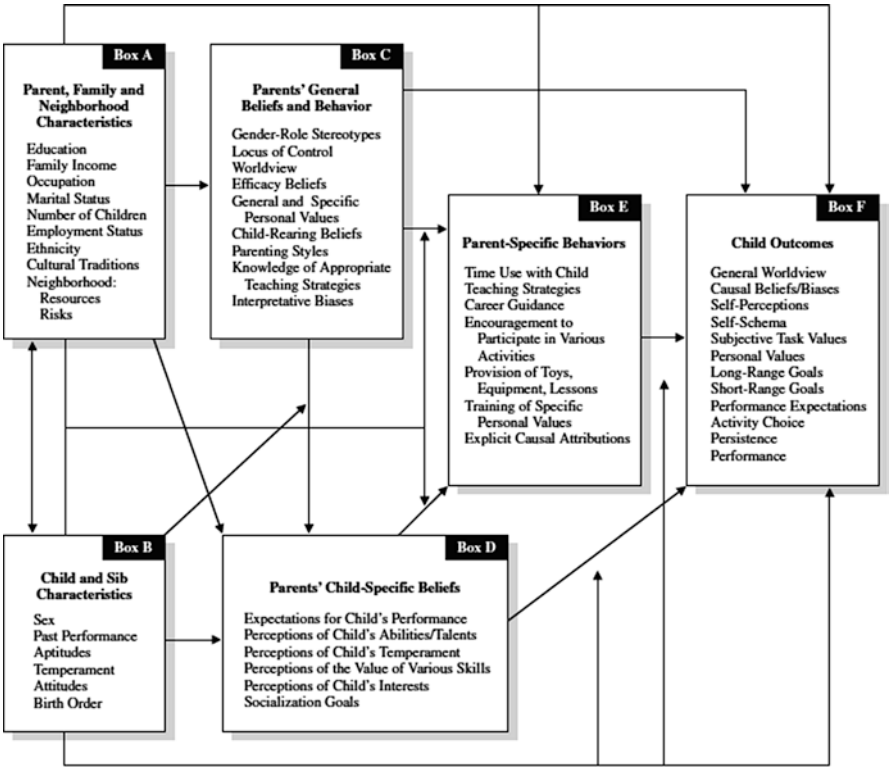


**Fig. 1.4** Eccles and colleagues' model of parental influences on children's motivation and achievement (Reproduced from Wigfield et al. 2006). Reproduced with permission of the Licensor through PLSclear

and birth order; (3) parents' general beliefs and behavior, including gender-role stereotypes, beliefs about parenting, parenting styles, and general world view; (4) specific beliefs of the parents about their child, expectations about the child's performance, perceptions of the child's abilities, skills, and interests, and socialization goals; and (5) parent specific behaviors, such as teaching strategies, encouragement to participate in school and extracurricular activities, and explicit causal attributions. The interaction of these factors and how they influence each other will lead to how each child sees the world, their causal beliefs, biases, task and personal values, goals, activities choices, and how they perform and persist in different activities.

There is ample evidence that supports the influence of achievement and motivation of some of the components of the model and their interactions, like sociodemographic characteristics and parents' beliefs. However, more research is needed in other areas like parenting behaviors (Wigfield et al. 2006).

Research has shown that socio-demographic characteristics of the family like socioeconomic status (SES), parents' educational level and occupation, and the level of social support, have an impact on several areas of child development, including the development of achievement and motivation (e.g. Bradley and Corwyn 2002; Collins et al. 2000; Yeung et al. 2002). Some mechanisms that could explain these associations include the different opportunities and experiences children have, depending on the family income (Simpkins et al. 2012). Also, SES has been linked to the level of stress that parents experience, which can impact the amount of time they spend with their children in activities that promote achievement motivation (Marjoribanks 2002; Yeung et al. 2002), and also their parenting practices (Bradley and Corwyn 2002; Conger et al. 2002).

Moreover, parents' educational level can have an impact in their general and specific beliefs about school and learning. For example, parents with high educational levels have more positive beliefs about learning, higher beliefs about the child's abilities, and higher expectations for their performance (Jacobs et al. 2005). This, in turn, can lead them to provide more intellectually stimulating experiences and materials (Simpkins et al. 2012;), establishing higher demands for the child in his/her academic performance, increasing the level of reinforcement they offer to good performance, as well as the level of support and help they provide in academic activities (Gniewosz et al. 2015; Simpkins et al. 2012).

There is extensive evidence that shows that the kind of activities, experiences and learning opportunities that parents provide to their children have an impact on their motivation towards learning in general, particularly in mathematics, reading, and the sciences (e.g. Jacobs et al. 2005; King and Ganotice 2014; Ratelle et al. 2004; Wang and Sheikh-Khalil 2014). Also, research has shown a positive relation between parental involvement in school and academic activities, and the child's school involvement, intrinsic motivation and mastery goals (Karbach et al. 2013; Schunk et al. 2012).

The values and beliefs that parents have towards academic achievement and their own motivation towards learning can influence the values and beliefs that the child develops through modeling, and explicit/implicit messages (Gniewosz et al. 2015; Gunderson et al. 2012; Jacobs and Eccles 2000; Tenenbaum and Leaper 2003; Vedder-Weiss and Fortus 2013). For example, Eccles-Parsons et al. (1982) showed that parents' perceptions and expectations about their child's mathematical aptitude were related to their self-concepts and attitudes towards the subject.

Finally, the expectations and perceptions that parents have about their children's abilities and performance can impact the development of beliefs, values and goals of the child (Fredricks and Eccles 2002; Gunderson et al. 2012). For example, parents may not provide the child with certain activities or experiences because they feel that the child does not have the skills to do them, or they do not promote or reward performance in other activities because they do not see them as useful for what they expect from their child. Also, when parents are supportive and encourage their child's effort, they tend to show more persistence and effort in difficult tasks, and thus develop more mastery-oriented goals (Hokoda and Fincham 1995; Wentzel 1998).

### *1.4.2 School Influence*

After home, school is probably the place where children and adolescents spend most of their time, and the experiences and teachings that they receive in the classroom will impact development in many ways. The influence of school in the development of motivation comes from different factors like the school's norms and rules, the methodology and teaching practices used to teach different subjects, student-teacher interactions, and the teacher's beliefs and expectations.

Research has shown that when the school environments are able to adapt to the basic and developmental needs of the students, they favorably promote their motivation towards learning (Catalano et al. 2004; Kahne et al. 2001). These needs can be met because the school's teaching practices take into account child development and are adapted according to the needs of particular children (Eccles 1993), and because they meet basic needs like those proposed by Deci and Ryan (e.g. Deci and Ryan 2000a; Ryan and Deci 2002).

It is also important to consider the school's climate, the emphasis it makes on different rules, norms and goals, and its policies towards learning, because they can affect children's motivation towards academic achievement (Pintrich and Maehr 2004). On the one hand, the emphasis placed by the school on certain learning and achievement goals creates a climate that can impact student's motivation (Midgley 2014; Roesser et al. 1998). On the other, the school's climate has an impact on the teachers and their beliefs, expectations, and practices, which, in turn, will have an impact on the motivation of students towards learning (Lee and Smith 2001; National Research Council [NRC], 2004).

Teachers are strong role-models for children and teenagers, so positive teacher-student relationships can give the students a sense of belonging and support that influences their beliefs, goals, and values towards academic achievement (Furrer and Skinner 2003; Wentzel 2002). Teachers can have an extraordinary impact on their students' motivation in several ways, including their personality traits, attitudes, beliefs and expectations, enthusiasm, the methodologies they use, their professional knowledge and skills, their classroom management style, and the kind of relationships they establish with the students (Eggen and Kauchak 2007; Schunk et al. 2012). Teachers' self-efficacy and their beliefs about their ability to teach students and to influence them, has an impact on their students' motivation and involvement in academic activities (Friedel et al. 2007; Lee and Smith 2001; Roeser et al. 2002).

The instructional practices and the learning experiences teachers offer to their students have an impact on their motivation and goals (Logan and Skamp 2008; Patrick et al. 2001; Swarat et al. 2012). Researchers have shown that when academic work is evaluated by the students as meaningful and relevant, they are more involved with the activities and increase their identification with educational goals (NRC 2004). Also, when teachers use practices oriented to favor collaboration between students instead of competition, and provide autonomy in class activities and projects, students tend to engage more and report higher motivation (Guthrie et al. 2004; Wigfield and Tonks 2004).

The example and support teachers bring to their students, and the adaptations they make to help them understand and find their strengths, and to meet their special needs, is another important influence on students' motivation (McInerney 2008; Sjaastad 2012; Wang and Eccles 2012). For example, Sjaastad (2012) showed that teachers are important role models for teenagers and have an impact on their career choice, particularly in science, technology, engineering, and mathematics. Teachers can show students positive experiences with careers in these areas that can influence their decisions. Also, when they make curricular and methodological adaptations in their teaching to help students with difficulties and special needs, they can help them have positive experiences with the subjects and discover their abilities in them.

### *1.4.3 Influence of Peers*

Social relationships with peers can have a strong impact on achievement motivation, and are particularly relevant during childhood, adolescence, and young adulthood (Gallardo et al. 2016). The interest in social relationships increases significantly during adolescence, and in turn, the susceptibility for the influence of peers increases (Brechwald and Prinstein 2011; Lee and Shute 2010; NRC 2004). Research has shown that children that have better social relationships with their peers tend to have more positive beliefs about themselves, and more prosocial behaviors and adaptive social interactions (Wentzel and Muenks 2016). Also, they tend to be more motivated in academic tasks and have better academic performance (Wentzel 2005).

Adolescents tend to relate to peers with similar interests and motivations, thus reinforcing those motivational orientations (Ryan 2001; Wigfield and Wagner 2005). Moreover, research has shown that peers' attitudes toward school and academic achievement predict student's motivation levels (Murdock et al. 2001; Simpson and Oliver 1990). For example, Nelson and DeBacker (2008) studied the associations between perceived peer relationships and achievement motivation during science classes in a group of middle and high school students. They found that both, the quality of friendship and the perception that teenagers have about whether or not their peers' value academic performance and respect school norms, predicted participants' achievement motivation.

Peers have an influence on the kinds of goals students have towards academic achievement, but also their motivational orientation has an impact on their selection of friends. Friends influence academic goals through modeling and by social reinforcement of peer goals and values (Bandura 1986; Ryan 2001). Also, Shin and Ryan (2014) found that when students have a mastery orientation and want to improve their skills, they tend to look for other mastery-oriented peers. On the other hand, students with a performance orientation, who want to do better than others, may not look for other students with the same orientation.

In a more general way, peers' acceptance seems to have an impact on academic achievement and motivation because it contributes to students developing a sense of belonging to the school (Boulton et al. 2011). To be accepted by peers leads to chil-

dren to feeling they have a strong connection to school life, and impacts their motivation to participate in more curricular and extracurricular school activities, particularly in adolescence (Véronneau et al. 2010). Gallardo et al. (2016) studied the relationship between peer acceptance and friendship, and the level of academic achievement in adolescents from 11 to 16 years of age. These authors found that peer acceptance positively predicted subsequent academic achievement, and that this relationship is moderated by age, with a greater impact of peer acceptance on academic achievement as children get older.

## 1.5 Does Motivation Have a Developmental Trajectory?

Developmental psychology studies the changes and stabilities that occur throughout our life span. In the development of motivation, it has focused particularly on how motivation changes with age, the influence that biological and environmental factors have on its development, and how they explain individual differences in motivation (Wigfield et al. 2006). Research has shown specific developmental changes in the factors presented in the theories that we reviewed earlier, and also individual and group differences (e.g. gender and cultural differences) in the development of motivation.

Despite the importance of understanding how motivation develops, there are many things about motivational changes across our life span that are still not clear, like the impact of different influences on motivation at different moments of development, if the relationship between those influences changes with age, and what we can do to impact motivation at different moments of development, both in typical and atypical developmental trajectories. More research in the field is needed to answer those and other important questions.

This section focuses on the main changes and stabilities that have been identified in the development of motivation, and the various factors related with it, with an emphasis on childhood and adolescence, the age groups of interest for the present book.[2] The study of development of motivation in these ages has focused mainly in achievement and motivation towards school and learning, and we will focus our review on that area.

There are important changes in children's motivation as they grow up. Traditionally, research on the development of motivation has focused on childhood, particularly from age two onwards. Before that age, the general idea is that motivated behavior depends on more biological factors, and that with age, other social factors and institutions like family and school, become increasingly influential (Heckhausen 2000).

Probably the foundation for the development of motivational beliefs, values and goals starts with the first experiences of success and failure and how children react

[2] For more information on the development of motivation in adults you can see: Carstensen 1993; Kanfer and Ackerman 2004; Wlodkowski 2011.

to them (Wigfield et al. 2008). As children get older, and with the changes related to emotional development, we can see how emotional reactions to these experiences change; children start to compare themselves with others, thus their evaluations of their own performance also change.

Since birth, children experience success and failure and react to it. We can see emotional expressions in babies in these kinds of situations and how their behaviors change according to the results of their actions. Before age 2, these basic emotions seem to be related with children accomplishing a task or not (Stipek et al. 1992). After age 2 children start to show self-evaluative reactions and emotional expressions of joy and sadness related to experiences of success or failure in different situations (Heckhausen 1987). Also, at this age, children start to look concerned by the evaluation of others and seek for their approval when they do well (Stipek et al. 1992). Around age 3 it becomes clearer that children are able to evaluate their performance (Stipeck et al. 1992) and as complex emotions, like pride and embarrassment, start to emerge, children express pride in being able to do a difficult task, as well as signs of embarrassment and discomfort when they fail (Heckhausen 1987). At around age 3 or 4, children start comparing themselves with others, and express joy and pride when they win, and sadness and shame when they lose in games (Heckhausen 1987). These emotions show that very early in development children can evaluate their performance and have expectations related to it, which, in turn, is related to the development of children's achievement-related beliefs (Wigfield et al. 2006).

Another important developmental change that has been studied is the development of beliefs about competence, efficacy and control. Competence beliefs refer to the feeling that one has the capacity to achieve what we want to achieve, and are related to the understanding of ability, effort, and difficulty. Research has shown that the conception of ability starts to emerge in the early school years, and before that children see ability as concrete, observable things that they do (Cain and Dweck 1989, 1995), and do not see it as a stable quality that can be used to predict people's behavior (Dweck 2002). Related to these notions, preschool children differentiate competence among different academic and non-academic domains, and have differentiated competence-related beliefs in various tasks (Eccles et al. 1998; Mantzicoupolus et al. 2004).

Younger children are very optimistic about how competent they are in different areas, and their perceptions about competence are often different from their parents' and teachers' evaluations (Wigfield et al. 1997), and different from their performance levels (Nicholls 1979). In the early school years children start to see ability as a more internal, less observable quality, and become increasingly accurate in assessing their own abilities (Dweck 2002).

At the beginning of elementary school, children have very positive –and sometimes unrealistic– perceptions of their abilities (Aunola et al. 2002; Wigfield and Eccles 2000), and as they grow older, their perceptions become more realistic and even negative (Dweck 2002; Jacobs et al. 2002). Between ages 10 and 12, children can differentiate between ability, effort, and performance, and their relationship

(Dweck 2002; Nicholls and Miller 1984). Adolescents have a clear notion of ability and effort, and understand ability as a capacity (Nicholls and Miller 1984).

Finally, the stability of competence beliefs increases as children get older, until they reach adolescence (Eccles et al. 1998; Wigfied et al. 2006). The self-concept of ability seems to have an important development during the first grades of elementary school. Aunola et al. (2002) found that at the beginning of elementary school children's evaluations of their abilities were unstable and became relatively stable by the end of first grade. These changes could be related to the development of reasoning skills, the change in the social context of school, and the feedback children receive from teachers and peers (Pesu et al. 2016a, b).

As was mentioned earlier, researchers have found that children's competence beliefs decline as they get older (e.g. Dweck 2002; Eccles et al. 1998; Wigfield et al. 2006). This decline seems to happen across domains (i.e. math, reading, sports and sciences) but the reasons for it are still unclear (Fredericks and Eccles 2004; Jacobs et al. 2002). According to Wigfield et al. (2008), there are two possible reasons for these negative changes. The first explanation is that children become more realistic and better at assessing their own capacities. This happens because children get better in their understanding of ability as a stable trait, they become more accurate in assessing their own performance, better at interpreting and integrating the feedback they receive from parents, teachers, and peers, and compare their performance with others more frequently. The second explanation is that, as children get older, schools put more emphasis on evaluation and competition between students, which impacts the way they assess their performance.

The study of the development of efficacy beliefs has focused primarily in self-efficacy and its development. From early experiences, children start developing beliefs about their ability to influence and control the environment. After that, children have a wide repertoire of experiences and feedback from parents and teachers, which influence the development of self-efficacy (Schunk and Pajares 2002). In relation to the development of efficacy beliefs, research shows that, contrary to what happens with competency beliefs, efficacy beliefs seem to increase with age (Shell et al. 1995; Zimmerman and Martínez-Pons 1990). As we will see next, this difference with competence controls beliefs and could be explained by the fact that as children get older they get better at recognizing their abilities, which means that they do not only evaluate better what they can and cannot do, but they also get better at anticipating the results of their behaviors and have more strategies to deal with the problems they face. However, differences could also be explained from differences in the methodology used to study the three kinds of beliefs (Wigfield et al. 2006), and more research in the field is needed.

Control beliefs, as well as competence beliefs, seem to decrease alongside development. Researchers have found that younger children believe that they have greater control over chance events, and internal locus of control decreases from elementary to middle school years (Connell 1985; Weisz 1984). Skinner et al. (1998) found that the decline in control beliefs is related to children's perceptions of the teachers being less involved with them and providing less structure. Other factors related to this change need to be further studied.

Motivation, particularly achievement motivation, is related to the value we give to the tasks we do or are asked to do (NRC 2004), so to understand how motivation changes through life it is important to understand how subjective task values develop. Researchers have shown that children give different values to different school domains (math, reading and sports) since the early school years (Eccles et al. 1993). Eccles and her colleagues (e.g. Eccles-Parsons et al. 1983; Eccles and Wigfield 1995) found that the value children give to different tasks is related to what they evaluate of the task, and these evaluations change across development. At the beginning of elementary school children value interest and utility/importance of the task, while older children distinguish three components: attainment value/personal importance, interest, and utility.

Research has shown that the value children give to academic tasks declines with age (Wigfield and Eccles 2002). Jacobs et al. (2002) studied how the value children give to different academic areas changes throughout the school years. These authors found that the value children gave to the domains of math, language arts and sports declined as they got older. However, the decline varied according to the domain. The decline of children's value of language arts was more pronounced during the elementary years, and then leveled off, while the decline in math's value was more pronounced during high school. These results show that there are differences in task values related to the task, but more research is needed to understand the factors that explain these differences.

The development of goals and interest has been less studied. Wigfield and Eccles (1992) suggested that children in elementary school select their activities and goals in relation to what their interests are and what activities they enjoy. As children get older, because they value different things of the tasks, like their utility and personal importance, and they have more complex cognitive abilities that allow them to think in long term goals, their elections of tasks and goals change. More research in this area is also needed.

There are still plenty of unanswered questions about how motivation and its components develop across our life span. One important difficulty for the study of motivational development is the lack of a unified understanding of motivation. This leads to researchers studying segmented aspects of it, which makes it difficult to have a clear big picture. More research in this field is needed if we want to understand the development of motivation, as well as to be able to predict and to influence its developmental trajectories.

Finally, there are few studies that explore motivation and its development in neurodevelopmental disorders (NDD). As far as we know, there have been some studies in children with Down syndrome and children with attention deficit and hyperactivity disorder (ADHD) (e.g. Carlson et al. 2000; Glenn et al. 2001; Niccols et al. 2003; Volkow et al. 2011), but this research is not usually theory-oriented but focuses on some of the main characteristics of the disorder. More research is needed to understand the developmental trajectories of motivation in NDD, and the similarities and differences with the typical trajectories. This research will help us understand better some features of the disorders and how to improve motivation in intervention, which, in turn, could impact the effectiveness of interventions.

## 1.6 Conclusion: Why Should We Care About Motivation and Its Development?

The study of motivation and its development has been an ongoing topic for more than a century. Many authors have worked on theories that try to explain what motivation is and to identify the central aspects involved in it. Many of these theories are currently maintained and their postulates and predictions continue to be researched around the world. Also, in the last few decades, research about the developmental trajectories of motivation has grown and we have gained a better understanding of them.

Researchers have shown the different ways in which contextual factors can impact motivation, especially how parents, teachers, school contexts, and peers influence motivation and its development. This is relevant because motivation is not an individual characteristic of the person, but it is situated in a context and it is influenced by it. In the field of education, understanding the factors that influence motivation, and in particular those that depend on the context, is relevant as those factors can impact learning.

This book focuses on how reading motivation can impact learning to read in boys and girls, beyond cognitive abilities. Understanding how we can provide an educational environment that promotes motivation is essential to ensure better academic results and learning, and widens the possibilities for interventions and strategies that teachers can implement.

However, as we presented in this chapter, many questions remain unanswered with regards to motivation and how it changes across our life span. The lack of a unifying theory that considers different key aspects of motivation like biology, cultural factors, beliefs, values, goals, and cognition, is still a problem for a better understanding of motivation. Having an integrative theory will also allow us to count with research that explores the relationship between these various factors, and will allow us to have an overall view of motivation and its development. In addition, we can develop more effective strategies to design interventions from a development perspective that take into account the particular characteristics of each individual. This knowledge will have an important impact on the fields of education and psychology.

## References

Atkinson, J. W. (1957). Motivational determinants of risk taking behavior. *Psychological Review, 64*(6), 359–372. https://doi.org/10.1037/h0043445.

Atkinson, J. W., & Raynor, J. O. (1978). *Personality, motivation, and achievement*. Oxford: Hemisphere.

Aunola, K., Leskinen, E., Onatsu-Arvilommi, T., & Nurmi, J. E. (2002). Three methods for studying developmental change: A case of reading skills and self-concept. *British Journal of Educational Psychology, 72*(3), 343–364. https://doi.org/10.1348/000709902320634447.

Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Englewood Cliffs: Prentice-Hall.

Bandura, A. (1991). Self-regulation of motivation through anticipatory and self-reactive mechanisms. In R. A. Dienstbier (Ed.), *Perspectives on motivation: Nebraska symposium on motivation* (Vol. 38, pp. 69–164). Lincoln: University of Nebraska Press.

Bandura, A. (1997). *Self-efficacy: The exercise of control*. New York: Freeman.

Bandura, A. (1999). A social cognitive theory of personality. In L. Pervin & O. John (Eds.), *Handbook of personality* (2nd ed., pp. 154–196). New York: Guilford.

Bandura, A., Barbaranelli, C., Caprara, G. V., & Pastorelli, C. (2001). Self-efficacy beliefs as shapers of children's aspirations and career trajectories. *Child Development, 72*(1), 187–206. https://doi.org/10.1111/1467-8624.00273.

Bechara, A., Damasio, H., & Damasio, A. R. (2000). Emotion, decision making and the orbitofrontal cortex. *Cerebral Cortex, 10*(3), 295–307. https://doi.org/10.1093/cercor/10.3.295.

Boulton, M. J., Don, J., & Boulton, L. (2011). Predicting children's liking of school from their peer relationships. *Social Psychology of Education, 14*(4), 489–501. https://doi.org/10.1007/s11218-011-9156-0.

Bradley, R. H., & Corwyn, R. F. (2002). Socioeconomic status and child development. *Annual Review of Psychology, 53*(1), 371–399. https://doi.org/10.1146/annurev.psych.53.100901.135233.

Brechwald, W. A., & Prinstein, M. J. (2011). Beyond homophily: A decade of advances in understanding peer influence processes. *Journal of Research on Adolescence, 21*(1), 166–179. https://doi.org/10.1111/j.1532-7795.2010.00721.x.

Buss, D. M. (2008). Human nature and individual differences. In S. E. Hampson & H. S. Friedman (Eds.), *The handbook of personality: Theory and research* (pp. 29–60). New York: The Guilford Press.

Cain, K. M., & Dweck, C. S. (1989). The development of children's conceptions of Intelligence; A theoretical framework. In R. J. Sternberg (Ed.), *Advances in the psychology of human intelligence* (Vol. 5, pp. 47–82). Hillsdale: Erlbaum.

Cain, K., & Dweck, C. S. (1995). The relation between motivational patterns and achievement cognitions through the elementary school years. *Merrill-Palmer Quarterly, 41*(1), 25–52.

Carlson, C. L., Mann, M., & Alexander, D. K. (2000). Effects of reward and response cost on the performance and motivation of children with ADHD. *Cognitive Therapy and Research, 24*(1), 87–98. https://doi.org/10.1023/A:1005455009154.

Carstensen, L. L. (1993, January). Motivation for social contact across the life span: A theory of socioemotional selectivity. In*Nebraska symposium on motivation* (Vol. 40, pp. 209–254).

Catalano, R. F., Berglund, M. L., Ryan, J. A., Lonczak, H. S., & Hawkins, J. D. (2004). Positive youth development in the United States: Research findings on evaluations of positive youth development programs. *The Annals of the American Academy of Political and Social Science, 591*(1), 98–124. https://doi.org/10.1177/0002716203260102.

Coll, C. G., Bearer, E. L., & Lerner, R. M. (2014). *Nature and nurture: The complex interplay of genetic and environmental influences on human behavior and development*. Mahwah: Psychology Press.

Collins, W. A., Maccoby, E. E., Steinberg, L., Hetherington, E. M., & Bornstein, M. H. (2000). Contemporary research on parenting: The case for nature and nurture. *American Psychologist, 55*(2), 218–232. https://doi.org/10.1037/0003–066X.55.2.218.

Conger, R. D., Wallace, L. E., Sun, Y., Simons, R. L., McLoyd, V. C., & Brody, G. H. (2002). Economic pressure in African American families: A replication and extension of the family stress model. *Developmental Psychology, 38*(2), 179. https://doi.org/10.1037/0012–1649.38.2.179.

Connell, J. P. (1985). A new multidimensional measure of children's perception of control. *Child Development, 56*(4), 1018–1041. https://doi.org/10.2307/1130113.

Damasio, A. R., Everitt, B. J., & Bishop, D. (1996). The somatic marker hypothesis and the possible functions of the prefrontal cortex [and discussion]. *Philosophical Transactions of the Royal Society of London B: Biological Sciences, 351*(1346), 1413–1420. https://doi.org/10.1098/rstb.1996.0125.

Deci, E. L., & Ryan, R. M. (2000). The "what" and "why" of goal pursuits: Human needs and the self–determination of behavior. *Psychological Inquiry, 11*(4), 227–268. https://doi.org/10.1207/S15327965PLI1104_01.

Deci, E. L., & Ryan, R. M. (2002a). The paradox of achievement: The harder you push, the worse it gets. In J. Aronson (Ed.), *Improving academic achievement: Impact of psychological factors on education* (pp. 61–87). San Diego: Academic Press.

Deci, E. L., & Ryan, R. M. (2002b). Self–determination research: Reflections and future directions. In E. L. Deci & R. M. Ryan (Eds.), *Handbook of self–determination theory research* (pp. 431–441). Rochester: University of Rochester Press.

Dörnyei, Z., & Ushioda, E. (2013). *Teaching and researching: Motivation*. London: Routledge. https://doi.org/10.4324/9781315833750.

Dweck, C. S. (2002). The development of ability conceptions. In A. Wigfield & J. S. Eccles (Eds.), *Development of achievement motivation* (pp. 57–88). San Diego: Academic Press. https://doi.org/10.1016/B978–012750053–9/50005–X.

Eccles, J. S. (1987). Gender roles and women's achievement–related decisions. *Psychology of Women Quarterly, 11*(2), 135–172. https://doi.org/10.1111/j.1471–6402.1987.tb00781.x.

Eccles, J. S. (1993). School and family effects on the ontogeny of children's interests, self–perceptions, and activity choice. In J. Jacobs (Ed.), *Nebraska symposium on motivation, 1992: Developmental perspectives on motivation* (pp. 145–208). Lincoln: University of Nebraska Press.

Eccles, J. S., & Harold, R. D. (1993). Parent–school involvement during the early adolescent years. *Teachers' College Record, 94*, 568–587.

Eccles, J. S., & Wigfield, A. (1995). In the mind of the actor: The structure of adolescents' achievement task values and expectancy–related beliefs. *Personality and Social Psychology Bulletin, 21*(3), 215–225. https://doi.org/10.1177/0146167295213003.

Eccles, J. S., & Wigfield, A. (2002). Motivational beliefs, values, and goals. *Annual Review of Psychology, 53*(1), 109–132. https://doi.org/10.1146/annurev.psych.53.100901.135153.

Eccles, J. S., Wigfield, A., Harold, R., & Blumenfeld, P. B. (1993). Age and gender differences in children's self– And task perceptions during elementary school. *Child Development, 64*(3), 830–847. https://doi.org/10.1111/j.1467–8624.1993.tb02946.x.

Eccles, J. S., Wigfield, A., & Schiefele, U. (1998). Motivation to succeed. In W. Damon (Series Ed.) & N. Eisenberg (Vol. Ed.), *Handbook of Child Psychology* (5th ed. Vol. 3, pp. 1017–1095). New York: Wiley.

Eccles–Parsons, J., Adler, T. F., & Kaczala, C. M. (1982). Socialization of achievement attitudes and beliefs: Parental influences. *Child Development, 53*(2), 310–321. https://doi.org/10.2307/1128973.

Eccles–Parsons, J., Adler, T. F., Futterman, R., Goff, S. B., Kaczala, C. M., Meece, J. L., et al. (1983). Expectancies, values, and academic behaviors. In J. T. Spence (Ed.), *Achievement and achievement motivation* (pp. 75–146). San Francisco: Freeman.

Eggen, P. D., & Kauchak, D. P. (2007). *Educational psychology: Windows on classrooms*. Virginia: Prentice Hall.

Ernst, M. (2014). The triadic model perspective for the study of adolescent motivated behavior. *Brain and Cognition, 89*, 104–111. https://doi.org/10.1016/j.bandc.2014.01.006.

Ernst, M., & Fudge, J. L. (2009). A developmental neurobiological model of motivated behavior: Anatomy, connectivity and ontogeny of the triadic nodes. *Neuroscience & Biobehavioral Reviews, 33*(3), 367–382. https://doi.org/10.1016/j.neubiorev.2008.10.009.

Ernst, M., & Paulus, M. P. (2005). Neurobiology of decision making: A selective review from a neurocognitive and clinical perspective. *Biological Psychiatry, 58*(8), 597–604. https://doi.org/10.1016/j.biopsych.2005.06.004.

Ernst, M., Pine, D. S., & Hardin, M. (2006). Triadic model of the neurobiology of motivated behavior in adolescence. *Psychological Medicine, 36*(03), 299–312. https://doi.org/10.1017/S0033291705005891.

Ernst, M., Romeo, R. D., & Andersen, S. L. (2009). Neurobiology of the development of motivated behaviors in adolescence: A window into a neural systems model. *Pharmacology Biochemistry and Behavior, 93*(3), 199–211. https://doi.org/10.1016/j.pbb.2008.12.013.

Fredricks, J. A., & Eccles, J. S. (2002). Children's competence and value beliefs from childhood through adolescence: Growth trajectories in two male–sex–typed domains. *Developmental Psychology, 38*(4), 519–533. https://doi.org/10.1037/0012–1649.38.4.519.

Fredricks, J. A., & Eccles, J. S. (2004). Parental influences on youth involvement in sports. In M. R. Weiss (Ed.), *Developmental sport and exercise psychology: A lifespan perspective* (pp. 145–164). Morgantown: Fitness Information Technology.

Freud, S. (1920). *Beyond the pleasure principle*. London: The Hogarth Press and the Institute of Psychoanalysis.

Friedel, J. M., Cortina, K. S., Turner, J. C., & Midgley, C. (2007). Achievement goals, efficacy beliefs and coping strategies in mathematics: The roles of perceived parent and teacher goal emphases. *Contemporary Educational Psychology, 32*(3), 434–458. https://doi.org/10.1016/j.cedpsych.2006.10.009.

Furrer, C., & Skinner, E. (2003). Sense of relatedness as a factor in children's academic engagement and performance. *Journal of Educational Psychology, 95*(1), 148–162. https://doi.org/10.1037/0022–0663.95.1.148.

Gallardo, L. O., Barrasa, A., & Guevara–Viejo, F. (2016). Positive peer relationships and academic achievement across early and midadolescence. *Social Behavior and Personality: An International Journal, 44*(10), 1637–1648. https://doi.org/10.2224/sbp.2016.44.10.1637.

Glenn, S., Dayus, B., Cunningham, C., & Horgan, M. (2001). Mastery motivation in children with down syndrome. *Down Syndrome Research and Practice, 7*(2), 52–59. https://doi.org/10.3104/reports.114.

Gniewosz, B., Eccles, J. S., & Noack, P. (2015). Early adolescents' development of academic self-concept and intrinsic task value: The role of contextual feedback. *Journal of Research on Adolescence, 25*(3), 459–473. https://doi.org/10.1111/jora.12140.

Gunderson, E. A., Ramirez, G., Levine, S. C., & Beilock, S. L. (2012). The role of parents and teachers in the development of gender–related math attitudes. *Sex Roles, 66*(3–4), 153–166. https://doi.org/10.1007/s11199-011-9996-2.

Guthrie, J. T., Wigfield, A., & Perencevich, K. C. (Eds.). (2004). *Motivating reading comprehension: Concept oriented reading instruction*. Mahwah: Erlbaum. https://doi.org/10.4324/9781410610126.

Harackiewicz, J. M., Barron, K. E., & Elliot, A. J. (1998). Rethinking achievement goals: When are they adaptive for college students and why? *Educational Psychologist, 33*(1), 1–21. https://doi.org/10.1207/s15326985ep3301_1.

Heckhausen, H. (1987). Emotional components of action: Their ontogeny as reflected in achievement behavior. In D. Gîrlitz & J. F. Wohlwill (Eds.), *Curiosity, imagination, and play* (pp. 326–348). Hillsdale: Erlbaum.

Heckhausen, J. (2000). *Motivational psychology of human development: Developing motivation and motivating development*. Amsterdam: Elsevier. https://doi.org/10.1016/S0166-4115(00)80003-5.

Hokoda, A., & Fincham, F. D. (1995). Origins of children's helpless and mastery achievement patterns in the family. *Journal of Educational Psychology, 87*(3), 375–385. https://doi.org/10.1037/0022-0663.87.3.375.

Hull, C. L. (1943). *Principles of behavior: An introduction to behavior theory*. Oxford: Appleton-Century Company, Incorporated.

Jacobs, J. E., & Eccles, J. S. (2000). Parents, task values, and real-life achievement-related choices. In C. Sansone & J. M. Harackiewicz (Eds.), *Intrinsic and extrinsic motivation: The search for optimal motivation and performance* (pp. 405–439). San Diego: Academic Press.

Jacobs, J. E., Lanza, S., Osgood, D. W., Eccles, J. S., & Wigfield, A. (2002). Changes in children's self-competence and values: Gender and domain differences across grades one through twelve. *Child Development, 73*(2), 509–527. https://doi.org/10.1111/1467-8624.00421.

Jacobs, J. E., Davis-Kean, P., Bleeker, M., Eccles, J. S., & Malanchuk, O. (2005). I can, but I don't want to. The impact of parents, interests, and activities on gender differences in math. In A. Gallagher & J. Kaufman (Eds.), *Gender differences in mathematics: An integrative psychological approach* (pp. 246–263). Cambridge: Cambridge University Press.

James, W. (1963). *Psychology*. New York: Fawcett.

Kahne, J., Nagaoka, J., Brown, A., O'Brien, J., Quinn, T., & Thiede, K. (2001). Assessing afterschool programs as contexts for youth development. *Youth & Society, 32*(4), 421–446. https://doi.org/10.1177/0044118X01032004002.

Kanfer, R., & Ackerman, P. L. (2004). Aging, adult development, and work motivation. *Academy of Management Review, 29*(3), 440–458. https://doi.org/10.5465/AMR.2004.13670969.

Karbach, J., Gottschling, J., Spengler, M., Hegewald, K., & Spinath, F. M. (2013). Parental involvement and general cognitive ability as predictors of domain-specific academic achievement in early adolescence. *Learning and Instruction, 23*, 43–51. https://doi.org/10.1016/j.learninstruc.2012.09.004.

King, R. B., & Ganotice, F. A., Jr. (2014). The social underpinnings of motivation and achievement: Investigating the role of parents, teachers, and peers on academic outcomes. *The Asia-Pacific Education Researcher, 23*(3), 745–756. https://doi.org/10.1007/s40299-013-0148-z.

Kleinginna, P. R., Jr., & Kleinginna, A. M. (1981). A categorized list of motivation definitions, with a suggestion for a consensual definition. *Motivation and Emotion, 5*(3), 263–291. https://doi.org/10.1007/BF00993889.

Lee, J., & Shute, V. J. (2010). Personal and social-contextual factors in K–12 academic performance: An integrative perspective on student learning. *Educational Psychologist, 45*(3), 185–202. 1080/00461520.2010.493471.

Lee, V. E., & Smith, J. (2001). *Restructuring high schools for equity and excellence: What works*. New York: Teachers College Press.

Linnenbrink, E. A. (2005). The dilemma of performance-approach goals: The use of multiple goal contexts to promote students' motivation and learning. *Journal of Educational Psychology, 97*(2), 197–213. https://doi.org/10.1037/0022-0663.97.2.197.

Logan, M., & Skamp, K. (2008). Engaging students in science across the primary secondary interface: Listening to the students' voice. *Research in Science Education, 38*(4), 501–527. https://doi.org/10.1007/s11165-007-9063-8.

Mantzicopoulos, P., French, B. F., & Maller, S. J. (2004). Factor structure of the pictorial scale of perceived competence and social acceptance with two pre-elementary samples. *Child Development, 75*(4), 1214–1228. https://doi.org/10.1111/j.1467-8624.2004.00734.x.

Marjoribanks, K. (2002). *Family and school capital: Towards a context theory of students' school outcomes*. Dordrecht: Kluwer Academic. https://doi.org/10.1007/978-94-015-9980-1.

Maslow, A. H. (1943). A theory of human motivation. *Psychological Review, 50*(4), 370–396. https://doi.org/10.1037/h0054346.

McDougal, W. (1908). *An introduction to social psychology*. Boston: John W. Luce and Co..

McInerney, D. M. (2008). Personal investment, culture and learning: Insights into school achievement across Anglo, aboriginal, Asian and Lebanese students in Australia. *International Journal of Psychology, 43*(5), 870–879. https://doi.org/10.1080/00207590701836364.

Midgley, C. (Ed.). (2014). *Goals, goal structures, and patterns of adaptive learning*. Abingdon: Routledge. https://doi.org/10.4324/9781410602152.

Murdock, T. B., Hale, N. M., & Weber, M. J. (2001). Predictors of cheating among early adolescents: Academic and social motivations. *Contemporary Educational Psychology, 26*(1), 96–115. https://doi.org/10.1006/ceps.2000.1046.

National Research Council. (2004). *Engaging schools: Fostering high school students' motivation to learn*. Washington, DC: National Academies Press. https://doi.org/10.5860/choice.42–1079.

Nelson, R. M., & DeBacker, T. K. (2008). Achievement motivation in adolescents: The role of peer climate and best friends. *The Journal of Experimental Education, 76*(2), 170–189. https://doi.org/10.3200/JEXE.76.2.170-190.

Niccols, A., Atkinson, L., & Pepler, D. (2003). Mastery motivation in young children with Down's syndrome: Relations with cognitive and adaptive competence. *Journal of Intellectual Disability Research, 47*(2), 121–133. https://doi.org/10.1046/j.1365-2788.2003.00452.x.

Nicholls, J. G. (1979). Development of perception of own attainment and causal attributions for success and failure in reading. *Journal of Educational Psychology, 71*(1), 94–99. https://doi.org/10.1037/0022-0663.71.1.94.

Nicholls, J. G., & Miller, A. T. (1984). The differentiation of the concepts of difficulty and ability. *Child Development, 54*(4), 951–959. https://doi.org/10.2307/1129899.

Patrick, H., Anderman, L. H., Ryan, A. M., Edelin, K. C., & Midgley, C. (2001). Teachers' communication of goal orientations in four fifth-grade classrooms. *The Elementary School Journal, 102*(1), 35–58. Retrieved from http://www.jstor.org/stable/1002168.

Pavlov, I. P. (2003). *Conditioned reflexes*. Mineola: Courier Corporation.

Pesu, L. A., Aunola, K., Viljaranta, J., & Nurmi, J. E. (2016a). The development of adolescents' self-concept of ability through grades 7–9 and the role of parental beliefs. *Frontline Learning Research, 4*(3), 92–109. https://doi.org/10.14786/flr.v4i3.249.

Pesu, L., Viljaranta, J., & Aunola, K. (2016b). The role of parents' and teachers' beliefs in children's self-concept development. *Journal of Applied Developmental Psychology, 44*, 63–71. https://doi.org/10.1016/j.appdev.2016.03.001.

Petri, H. L., & Govern, J. M. (2012). *Motivation: Theory, research, and application*. Belmont: Wadsworth Publishing.

Pintrich, P. R. (2000). Multiple goals, multiple pathways: The role of goal orientation in learning and achievement. *Journal of Educational Psychology, 92*(3), 544–555. 10.I037//0022-O663.92.3.544.

Pintrich, P. R. (2003). A motivational science perspective on the role of student motivation in learning and teaching contexts. *Journal of Educational Psychology, 95*(4), 667. https://doi.org/10.1037/0022-0663.95.4.667.

Pintrich, P. R., & Maehr, M. L. (2004). *Advances in motivation and achievement: Motivating students, improving schools* (Vol. 13). Bingley: Emerald Grup Publishing Limited.

Ratelle, C. F., Guay, F., Larose, S., & Senécal, C. (2004). Family correlates of trajectories of academic motivation during a school transition: A semiparametric group-based approach. *Journal of Educational Psychology, 96*(4), 743. https://doi.org/10.1037/0022-0663.96.4.743.

Roeser, R. W., Eccles, J. S., & Sameroff, A. J. (1998). Academic and emotional functioning in early adolescence: Longitudinal relations, patterns, and prediction by experience in middle school. *Development and Psychopathology, 10*(02), 321–352.

Roeser, R. W., Marachi, R., & Gelhbach, H. (2002). A goal theory perspective on teachers' professional identities and the contexts of teaching. In C. M. Midgley (Ed.), *Goals, goal structures, and patterns of adaptive learning* (pp. 205–241). Hillsdale: Erlbaum.

Rotter, J. B. (1966). Generalized expectancies for internal versus external control of reinforcement. *Psychological Monographs: General and Applied, 80*(1), 1–28. https://doi.org/10.1037/h0092976.

Ryan, A. M. (2001). The peer group as a context for the development of young adolescents' motivation and achievement. *Child Development, 72*(4), 1135–1150. https://doi.org/10.1111/1467-8624.00338.

Ryan, R. M., & Deci, E. L. (2002). An overview of self-determination theory: An organismic-dialectical perspective. In E. L. Deci & R. M. Ryan (Eds.), *Handbook of self-determination theory research* (pp. 3–33). Rochester: University of Rochester Press.

Schunk, D. H., & Pajares, F. (2002). The development of academic self-efficacy. In A. Wigfield & J. S. Eccles (Eds.), *Development of achievement motivation* (pp. 15–32). San Diego: Academic Press.

Schunk, D. H., Meece, J. R., & Pintrich, P. R. (2012). *Motivation in education: Theory, research, and applications*. Harlow: Pearson Higher Ed.

Shell, D. F., Colvin, C., & Bruning, R. H. (1995). Self-efficacy, attribution, and outcome expectancy mechanisms in reading and writing achievement: Grade-level and achievement-

level differences. *Journal of Educational Psychology, 87*(3), 386–398. https://doi.org/10.1037/0022-0663.87.3.386.

Shin, H., & Ryan, A. M. (2014). Friendship networks and achievement goals: An examination of selection and influence processes and variations by gender. *Journal of Youth and Adolescence, 43*(9), 1453–1464. https://doi.org/10.1007/s10964-014-0132-9.

Simpkins, S. D., Fredricks, J. A., & Eccles, J. S. (2012). Charting the Eccles' expectancy-value model from mothers' beliefs in childhood to youths' activities in adolescence. *Developmental Psychology, 48*(4), 1019–1032. https://doi.org/10.1037/a0027468.

Simpson, R. D., & Oliver, J. (1990). A summary of major influences on attitude toward and achievement in science among adolescent students. *Science Education, 74*(1), 1–18. https://doi.org/10.1002/sce.3730740102.

Sjaastad, J. (2012). Sources of inspiration: The role of significant persons in young people's choice of science in higher education. *International Journal of Science Education, 34*(10), 1615–1636. https://doi.org/10.1080/09500693.2011.590543.

Skinner, B. F. (1963). Operant behavior. *American Psychologist, 18*(8), 503–515. https://doi.org/10.1037/h0045185.

Skinner, E. A. (1995). *Perceived control, motivation, and coping*. Thousand Oaks: Sage.

Skinner, E. A., Chapman, M., & Baltes, P. B. (1988). Control, meansends, and agency beliefs: A new conceptualization and its measurement during childhood. *Journal of Personality and Social Psychology, 54*(1), 117–133. https://doi.org/10.1037/0022-3514.54.1.117.

Skinner, E. A., Gembeck-Zimmer, M. J., & Connell, J. P. (1998). Individual differences and the development of perceived control. *Monographs of the Society for Research in Child Development, 6*(2/3. Serial No. 254), 1–220.

Stipek, D., Recchia, S., McClintic, S., & Lewis, M. (1992). Self-evaluation in young children. *Monographs of the Society for Research in Child Development*, *57*(1. Serial No. 226) 1–97.

Swarat, S., Ortony, A., & Revelle, W. (2012). Activity matters: Understanding student interest in school science. *Journal of Research in Science Teaching, 49*(4), 515–537. https://doi.org/10.1002/tea.21010.

Tenenbaum, H. R., & Leaper, C. (2003). Parent-child conversations about science: The socialization of gender inequities? *Developmental Psychology, 39*(1), 34–47. https://doi.org/10.1037/0012-1649.39.1.34.

Thorndike, E. L. (1927). The law of effect. *The American Journal of Psychology, 39*(1/4), 212–222. https://doi.org/10.2307/141541310.2307/1415413.

Ushioda, E. (2007). Motivation, autonomy and sociocultural theory. In P. Benson (Ed.), *Learner autonomy 8: Teacher and learner perspectives* (pp. 5–24). Dublin: Authentik.

Vallerand, R. J. (1997). Toward a hierarchical model of intrinsic and extrinsic motivation. *Advances in Experimental Social Psychology, 29*, 271–360. https://doi.org/10.1016/S0065-2601(08)60019-2.

Vedder-Weiss, D., & Fortus, D. (2013). School, teacher, peers, and parents' goals emphases and adolescents' motivation to learn science in and out of school. *Journal of Research in Science Teaching, 50*(8), 952–988. https://doi.org/10.1002/tea.21103.

Véronneau, M. H., Vitaro, F., Brendgen, M., Dishion, T. J., & Tremblay, R. E. (2010). Transactional analysis of the reciprocal links between peer experiences and academic achievement from middle childhood to early adolescence. *Developmental Psychology, 46*(4), 773. https://doi.org/10.1037/a0019816.

Volkow, N. D., Wang, G. J., Newcorn, J. H., Kollins, S. H., Wigal, T. L., Telang, F., & Wong, C. (2011). Motivation deficit in ADHD is associated with dysfunction of the dopamine reward pathway. *Molecular Psychiatry, 16*(11), 1147–1154. https://doi.org/10.1038/mp.2010.97.

Wang, M. T., & Eccles, J. S. (2012). Social support matters: Longitudinal effects of social support on three dimensions of school engagement from middle to high school. *Child Development, 83*(3), 877–895. https://doi.org/10.1111/j.1467-8624.2012.01745.x.

Wang, M. T., & Sheikh-Khalil, S. (2014). Does parental involvement matter for student achievement and mental health in high school? *Child Development, 85*(2), 610–625. https://doi.org/10.1111/cdev.12153.

Weiner, B. (1985). An attributional theory of achievement motivation and emotion. *Psychological Review, 92*(4), 548–573. https://doi.org/10.1037/0033-295X.92.4.548.

Weiner, B., Frieze, I., Kukla, A., Reed, L., Rest, S., & Rosenbaum, R. M. (1987). Perceiving the causes of success and failure. In E. E. Jones, D. E. Kanouse, H. H. Kelley, R. E. Nisbett, S. Valins, & B. Weiner (Eds.), *Attribution: Perceiving the causes of behavior* (pp. 95–120). Hillsdale: Lawrence Erlbaum Associates, Inc.

Weisz, J. P. (1984). Contingency judgments and achievement behavior: Deciding what is controllable and when to try. In J. G. Nicholls (Ed.), *The development of achievement motivation* (pp. 107–136). Greenwich: JAI Press.

Wentzel, K. R. (1998). Social relationships and motivation in middle school: The role of parents, teachers, and peers. *Journal of Educational Psychology, 90*(2), 202–209. https://doi.org/10.1037/0022-0663.90.2.202.

Wentzel, K. R. (2000). What is it that I'm trying to achieve? Classroom goals from a content perspective. *Contemporary Educational Psychology, 25*(1), 105–115. https://doi.org/10.1006/ceps.1999.1021.

Wentzel, K. (2002). Are effective teachers like good parents? Teaching styles and student adjustment in early adolescence. *Child Development, 73*(1), 287–301. https://doi.org/10.1111/1467-8624.00406.

Wentzel, K. R. (2005). Peer relationships, motivation, and academic performance at school. In C. S. Dweck & A. J. Elliot (Eds.), *Handbook of competence and motivation* (pp. 279–296). New York: Guilford Press.

Wentzel, K. R., & Miele, D. B. (Eds.). (2009). *Handbook of motivation at school*. New York: Routledge.

Wentzel, K. R., & Muenks, K. (2016). Peer influence on students' motivation, academic achievement, and social behavior. In K. R. Wentzel & G. B. Ramani (Eds.), *Handbook of social influences in school contexts: Social-emotional, motivation, and cognitive outcomes* (pp. 13–30). New York: Routledge.

Wentzel, K. R., Battle, A., Russell, S. L., & Looney, L. B. (2010). Social supports from teachers and peers as predictors of academic and social motivation. *Contemporary Educational Psychology, 35*(3), 193–202. https://doi.org/10.1016/j.cedpsych.2010.03.002.

Wigfield, A., & Eccles, J. (1992). The development of achievement task values: A theoretical analysis. *Developmental Review, 12*(3), 265–310. https://doi.org/10.1016/0273-2297(92)90011-P.

Wigfield, A., & Eccles, J. S. (2000). Expectancy–value theory of achievement motivation. *Contemporary Educational Psychology, 25*(1), 68–81. https://doi.org/10.1006/ceps.1999.1015.

Wigfield, A., & Eccles, J. S. (2002). The development of competence beliefs and values from childhood through adolescence. In A. Wigfield & J. S. Eccles (Eds.), *Development of achievement motivation* (pp. 92–120). San Diego: Academic Press.

Wigfield, A., & Tonks, S. (2004). The development of motivation for reading and how it is influenced by CORI. In J. T. Guthrie, A. Wigfield, & K. C. Perencevich (Eds.), *Motivating reading comprehension: Concept-oriented reading instruction* (pp. 249–272). Mahwah: Lawrence Erlbaum Associates Publishers.

Wigfield, A., & Wagner, A. L. (2005). Competence, motivation, and identity development during adolescence. In A. J. Elliot & C. S. Dweck (Eds.), *Handbook of competence and motivation* (pp. 222–239). New York: Guilford Press.

Wigfield, A., Eccles, J. S., Yoon, K. S., Harold, R. D., Arbreton, A. J., Freedman-Doan, C., & Blumenfeld, P. C. (1997). Change in children's competence beliefs and subjective task values across the elementary school years: A 3-year study. *Journal of Educational Psychology, 89*(3), 451. https://doi.org/10.1037/0022-0663.89.3.451.

Wigfield, A., Eccles, J. S., Schiefele, U., Roeser, R. W., & Davis-Kean, P. (2006). *Development of achievement motivation*. In N. Eisenberg, W. Damon & R.M. Lerner (Vol. 3, pp.933–1002). Hoboken: Wiley. doi: https://doi.org/10.1002/9780470147658.chpsy0315.

Wigfield, A., Eccles, J. S., Schiefele, U., Roeser, R. W., & Davis-Kean, P. (2007). *Development of achievement motivation*. Hoboken: Wiley.

Wigfield, A., Eccles, J. S., Roeser, R. W., & Schiefele, U. (2008). Development of achievement motivation. In W. Damon, R. M. Lerner, D. Kuhn, R. S. Siegler, & N. Eisenberg (Eds.), *Child and adolescent development: An advanced course* (pp. 406–434). Hoboken, NJ: Wiley.

Wlodkowski, R. J. (2011). *Enhancing adult motivation to learn: A comprehensive guide for teaching all adults*. San Francisco: Wiley.

Woodworth, R. S. (1918). *Dynamic Psychology*. New York: Columbia University Press.

Yeung, W. J., Linver, M. R., & Brooks–Gunn, J. (2002). How money matters for young children's development: Parental investment and family processes. *Child Development, 73*(6), 1861–1879. https://doi.org/10.1111/1467-8624.t01-1-00511.

Zimmerman, B. J., & Martinez-Pons, M. (1990). Student differences in self-regulated learning: Relating grade, sex, and giftedness to self-efficacy and strategy use. *Journal of Educational Psychology, 82*(1), 51–59. https://doi.org/10.1037/0022-0663.82.1.51.

# Part I
# Theoretical Approaches: Current Issues on Boys' and Girls' Reading Achievement and Motivation

# Chapter 2
# The Consequential Effects of Misinterpretations and Misrepresentations on Boys' and Girls' Reading Achievement and Motivation

**Linda M. Phillips, Karen Loerke, and Denyse V. Hayward**

**Abstract** In this chapter, we review studies on boys' and girls' reading achievement in North America for a period covering 13 decades. On the basis of over 3000 publications identified, only 78 were judged to be evidence-based for critical appraisal and interpretation. We lay out the background elements that have stoked a widespread rhetoric on gender differences and signal research on reading achievement and motivation for theoretical and empirical explanation. We next present the conceptual organization of the evolving set of facts on reading achievement into four periods that coincide with significant shifts in reading theories and practices including the major international and national assessments. Given the facts, we question whether boys' underachievement in reading is a genuine or meretricious crisis. The current dropout rate is as high as 50% in some cities in North America with culturally diverse and immigrant populations disproportionately represented; we thus turned to the research on reading achievement and motivation to inform our understanding. Underachievement brought about by low academic motivation is a significant contributor to school dropout and reading competence is affected by factors such as motivation, amount read, and reading comprehension. However, the core dimensions of intrinsic motivation explain a fundamental part of the story of reading achievement but other demographic and affective factors are instrumental.

L. M. Phillips (✉)
Canadian Centre for Research on Literacy, University of Alberta, Edmonton, AB, Canada
e-mail: linda.phillips@ualberta.ca

K. Loerke
Department of Elementary Education, University of Alberta, Edmonton, AB, Canada
e-mail: kloerke@telus.net

D. V. Hayward
Department of Educational Psychology, University of Alberta, Edmonton, AB, Canada
e-mail: dhayward@ualberta.ca



P. Orellana García, P. Baldwin Lind (eds.), *Reading Achievement and Motivation in Boys and Girls*, Literacy Studies 15,
https://doi.org/10.1007/978-3-319-75948-7_2

We conclude with the exception of low achieving boys from low socioeconomic and visible minorities, the issue of boys' and girls' reading achievement must be tempered and presented factually. There is an overstated lack of achievement for boys and an understated lack of achievement for girls.

**Keywords** Differential reading achievement · Evidence · Misconceptions · Intrinsic motivation

A persistent and protracted issue in education is boys' and girls' reading achievement. Based on the research literature some claim that girls are superior to boys in reading achievement (Berman and Bird 1933; Traxler 1935; Canadian Council on Learning 2007) while others ascribe to the position that there are no significant differences (Lietz 2006a, b; White 2007). The aim in this chapter is to provide an evidence-based background to counter the persuasive and powerful-sounding claims that boys are lagging behind girls in reading achievement. The incentive for this chapter is to make meaning out of the conflicting findings and to shift the focus of attention away from a gender gap to the achievement levels of all students. Resolution is critically important because classroom practices impact students' motivations.

In our research, over three decades, we have argued for the essential role of evidence in the conducting and reporting of an evolving set of facts on boys' and girls' reading achievement. We have organized this chapter to focus on reading achievement and to elucidate the effects of misinterpretations and misrepresentations of students' achievement. We provide the background elements and an evolving set of facts to show the staying power of a popular misconception about boys' and girls' reading achievement. We discuss separately four periods dating back to 1890 up to current time to demonstrate the increasing complexity and diversity of the research evidence. Next, we draw upon the research on motivation and achievement to show the integral and reciprocal role of intrinsic motivation regardless of gender. Finally, we acknowledge a wide range of achievement gaps and conclude that without reconciliation of the evidence with the widespread rhetoric on gender differences there will be minimal substantive educational progress.

## 2.1 Background Elements

Mainstream media has stoked a debate on and a call for changes in schooling and educational policies to accommodate for the widespread inchoate claim that boys are not doing as well as girls in reading. The misty claims are persistent and contradictory, and can be heard on talk shows, read in the news, parent magazines, professional literature, and online as well as in position statements and ministerial documents. Without understanding the reasons for the diversity of conclusions, the

facts will remain beyond our grasp, limit research on where and why gaps exist, and delay development of appropriate interventions.

As far back as the first quarter of the nineteenth century (Ayres 1909; Thorndike 1903) and into the second (Commins 1928; Lincoln 1927; Stroud and Lindquist 1942), researchers reported divergent conclusions. Most studies on sex differences in achievement prior to the 1980s focused on mathematical and mental abilities (Hogrebe et al. 1985), and literacy sub-tests around word activities (Thorndike 1903). Originally, sex differences in school achievement were determined from teacher anecdotal reports of the numbers of promotions, retentions, and school dropout rates (Ayers 1909). The early comparative studies on gender differences and achievement results indicated that girls were superior in spelling and handwriting, but that boys and girls were equal in arithmetic (Thorndike 1903). Reading comprehension was neither mentioned nor measured.

Some of the studies in the second quarter of the nineteenth century found no significant sex differences in reading at the elementary and high school levels (Commins 1928; Jordan 1937; Traxler 1935). However, results from data collected between 1932 and 1940 noted that generally boys underachieved in elementary school, but the reverse occurred in high school with boys slightly superior to girls except for algebra and reading comprehension wherein differences were small and not significant (Stroud and Lindquist 1942). Unfortunately, these results when cited by others were frequently misinterpreted, the caveats expressed by the primary researchers glossed over, and thus erroneously reported. More recent studies claim that girls outperform boys in reading achievement (Canadian Council on Learning 2007), while others challenge the claim, and conclude that the evidence has been overgeneralized and thus, exaggerated (White 2007).

Differences in published findings on boys' and girls' reading achievement extend from 1890 (approximate onset of compulsory education in North America) to present day. In order to determine if there is a sex difference, Loerke (2012) completed a comprehensive and systematic study of the published results and used a systematic, evidence-based primary studies, historical, and interpretative (SEHI) method (Petticrew and Roberts 2006) in order to provide a critical appraisal and interpretation of the key findings of 78 studies from over 3000 identified. Early studies used the term sex differences and more recently the term gender differences is used; we have held true to the usage at the time of each study.

## 2.2 An Evolving Set of Facts

Close to 13 decades is an extensive period for a research analysis on the direct and indirect sex/gender differences on reading achievement and from a variety of perspectives, methodologies, and sample sizes. Four periods that coincide with significant shifts in reading theories and practice were established (Loerke 2012) and the results are summarized and discussed next.

### 2.2.1 Compulsory Education and Roots of Reading Comprehension: 1890–1920

By the early 1900s in both Canada and the United States most children from ages 6 to 14 years attended school. Students were tested with a focus on empirical evidence based on standardized measures of individual academic skills, including reading. Only three robust studies were retrieved, analyzed and synthesized. Two by Edward Thorndike (1903) revealed no sex differences on tests of arithmetic, but differences in spelling with girls outperforming the boys (33% of the boys reached or exceeded the spelling ability compared to 50% of the girls). Thorndike's research has been subsequently misrepresented on a regular basis. Many studies state that Thorndike found reading differences when in fact the differences were on spelling.

Ayres (1909) examined statistics from the Commissioner of Education Report of 1907 to determine the causes for the retardation (retention) of students in school. He found in public schools, boys were being retained (13%) and not completing high school (17%) more than girls. Ayres neither provided details on whether the former underachieved or the latter left to help their families survive, or whether those retained eventually dropped out. Concerned by the lack of adequate studies and limited sample sizes, Pressey (1918) conducted a large scale study of general intelligence and special abilities of school-aged children with random and equal samples from both sexes. She found girls were slightly ahead on tests of judgment and on logical memory but boys performed better on arithmetic and practical information. Pressey's (1918) findings were inconclusive on whether boys and girls differed on reading achievement.

It is important to note that reading comprehension measures were not yet available. It was not until after the First World War that the first reading comprehension assessments were conducted (Sarroub and Pearson 1998). Thus, no conclusive evidence was available to suggest that boys were underachieving in reading comprehension. Nevertheless, based on spelling assessments and word reading activities, the perception was triggered that girls were superior to boys in the language arts and thus reading achievement became the hobbyhorse.

### 2.2.2 Field of Reading (1921–1945): Laying New Ground

Reading as a field of study emerged separate from psychology and flourished. Reading achievement took front stage and was often the criterion for passing or failing students. Eight studies were conducted on sex differences and reading achievement during this period. The first comprehensive study was carried out by Lincoln (1927) on the physical and mental development of boys and girls. He noted physical differences between boys and girls (later disputed and abandoned; see Maccoby 1966, p. 38) and results from reading comprehension tests were mixed and

inconclusive. Lincoln (1927) emphasized the need to report reading achievement by age and not grade since many classrooms at the time had a range of ages in each grade.

Sex differences between boys' and girls' school achievement were examined by Commins (1928). He found that despite the fact that girls surpassed boys in reading and language subtests, boys achieved higher scores in nature study, history, and literature – tests that also required reading. It was unacceptable to conclude these results to be indicative of boys' underachievement in reading comprehension but they were mispresented in secondary citations of the research. Two other studies examined sex differences and reading rates and found differences in favor of girls (Berman and Bird 1933; Traxler 1935). These findings should be interpreted with a caveat – even though speed of reading is an observable measure of one aspect of reading, rate is not a measure of reading comprehension.

Sex differences in achievement (Stroud and Lindquist 1942) and mental traits (Jordan 1937) were also examined. It was found in the former study that academically girls generally outperformed the boys in elementary school but boys surpassed girls in high school. However, the magnitude of sex differences in reading comprehension, although greater in elementary than in high school, were small and no significant differences were reported. Jordan (1937) concluded that girls were as competent as boys, challenging the myth that boys caught up and outperformed girls by high school. Yet again, there is no conclusive evidence of significant achievement differences based on the sex of students.

Maturation, IQ, and reading readiness were also studied. Samuels (1943) examined whether boys indeed needed extra support in reading readiness on the assumption that since girls matured earlier they must also be advanced mentally. However, due to insufficient data on paired groupings and an incomplete explanation of methods used to make comparisons, definitive conclusions were not and are not possible. Nonetheless, Samuels implied there were differences and recommended further study of the variables of maturation, IQ, gender, and reading readiness.

Millard (1940) emphasized the need for longitudinal studies that successively examined children's reading growth (p. 72). When reading achievement was matched to rates of growth and IQ, no differences were noted between boys and girls. More definitive was the evidence that supported the relationship between IQ and reading achievement (Millard 1940). Throughout the ebb and flow of reading research, sex differences formed a recurring theme, resurfacing in many topics in reading research. During the time period 1921–1945, no strong and clear evidence was brought forth to confirm that girls outperform boys on reading achievement and the results were often confounded for methodological reasons.

### 2.2.3 *Reading Research and Theoretical Models in Gender Development: 1946–1980*

Record numbers of economically disadvantaged children entered school after the Second World War and many experienced reading difficulties which prompted calls from parents and teachers to revise classroom-reading practices in order to reduce the gap in achievement (Allington and McGill-Franzen 2004). Many advocated for change and most vocal was Flesch (1955), a readability expert, who argued for a return to a systematic phonics approach – a way in which children were taught to sound out unknown words (Monaghan 2007). In contrast, within the reading community, based on new theoretical models, alternative teaching approaches were proposed such as the whole language approach with a preferred use of quality literature to instruct reading rather than the use of isolated skills such as phonics and decoding rules (Goodman and Goodman 1980). Separate from but related to research within reading, was the scholarly work conducted on gender development. By the 1960s and 1970s, influenced by social learning theory and cognitive developmental theory, fundamental changes in gender research took place and remain influential (Blakemore et al. 2009).

Database searches identified 471 studies in total from which 26 were deemed topical and thus procured, analyzed and synthesized. However, only nine met the robust standards for evidence-based research (Loerke 2012). Two challenged the assumption that boys underachieve in reading in the primary grades. Even though girls performed better than boys on many of the pre-reading subtests, the differences were often small or inconsistent (Dykstra and Tinney 1969; Prescott 1955) and neither measured reading comprehension. Five studies stipulated that when differences in reading achievement were correlated with intelligence and/or chronological age, no sex differences in reading achievement were found (Anderson et al. 1956, 1957; Clark 1959; Parsley et al. 1963; Sinks and Powell 1965). These studies implied a biological cause tied to innate individual differences for discrepancies in reading achievement unrelated to sex differences.

A few years on, two cross-cultural studies were conducted and these established that the variances in reading achievement were linked to socio-economics rather than either sex or biological factors (Finn 1980; Thorndike 1973). These findings suggested environmental differences between countries and typify the nature-nurture debate of human development. The extent of how genetics and culture interacted with human development was not yet reported in the literature. In summary, the results of these nine studies overwhelmingly revealed a lack of evidence to support female superiority over males in reading during the time period 1945–1980.

### 2.2.4 Boys' Reading Achievement Crisis: 1981–2016

The 1980s were seen as the education decade, "not a decade in which specific education problems were solved, but a decade in which the problems of education as a whole achieved national significance" (Doyle 1991, p. 185) followed by the emergence of scholarship on multicultural education (Gorski 1999), and heightened awareness of social justice issues such as power, privilege, and economics. Public pressure forced educators to change practice and theory, to establish standards of performance in Grades Kindergarten to 12 which subsequently grew into the high stakes testing programs.

A comprehensive search through the major databases from 1981–2011 resulted in more than 2000 studies compared to the 700 studies in the previous 30 years as well as an increased range of diversity in methodologies and of sample sizes. Attention shifted from the boy-girl gap in reading achievement to gender studies and concern for girls' under-achievement in mathematics and science. The 1990s was a time to make educational opportunities equitable and inclusive and to propagate the call for girls-only classes (Blair and Sanford 1999). Studies that focused on socio-cultural and cognitive factors examined the root cause of boys' perceived underachievement in reading.

Gender stereotyping and schema theoretical frameworks guided investigations on motivation, sex of the teacher, use of technology, and boy-friendly book choices (Sokal et al. 2005a, b; Sokal 2010; Sokal and Katz 2008; Sokal et al. 2009; Steiner et al. 1981). Other investigations took on a biological stance and drew upon research claims that males and females have different brains. These studies advocated for boys-only classes and addressed ways to use brain-based learning theory and strategies to engage boys' learning styles in the classroom (Basilo 2008; Vrooman 2009). Not surprisingly, the conundrum is that the strategies effective for teaching reading to boys are also effective for girls. Thus, at the heart of addressing the achievement gap is good quality teaching (Klinger et al. 2009).

A thorough search through the major databases on the topic of gender and reading during the time period 1981–2011 rendered approximately 110 potentially relevant works out of which only nine were evidence-based investigations. These nine demonstrate the absence of a gender gap in reading achievement. No significant differences in reading achievement were found by the time students reached Division II (end of Grades 3, 4, or 5) (Flynn and Rahbar 1994; Lummis and Stevenson 1990; Phillips et al. 2002; Quinlan 1996; Wargacki 2008). Moreover, no gender differences were found in the studies that examined the reading achievement of students in middle school (MacFarlane 2001), and high school (Hogrebe et al. 1985; White 2007). The essence of each of the nine studies warrants mention.

Regardless of the finding that boys and girls read equally well, Lummis and Stevenson (1990) found that biases exist, which have been perpetuated by parents and teachers, namely that boys are better in mathematics and girls in reading. Flynn and Rahbar (1994) found that when standardized tests were used to identify reading disabilities, no significant differences in gender were detected. However, when

teacher judgment was used there was a clear bias against boys. Phillips et al. (2002) presented evidence to challenge the notion that reading achievement does not change during the elementary grades and stressed the need for early identification of reading difficulties sooner than first thought. Harper and Pelletier (2008) also found no gender differences in early literacy but found significant differences between English language learners and students whose first language is English when assessed on meaning. Three studies challenged the statistical analyses from previous research (Hogrebe et al. 1985; Wargacki 2008; White 2007) and observed contrary findings indicating that gender differences accounted for less than 1% of reading achievement (Hogrebe et al. 1985; White 2007). The comprehensive examination and interpretation of the available evidence-based research in North America for a period of 12 decades confirms boys' and girls' reading achievement differs by approximately only 1%. Clearly, from the nine studies and the major analyses by Loerke (2012), the case for boys underachieving in reading is weak but biases are strong. Nonetheless, results from national and international assessments report gender differences.

The Program for International Student Assessment (PISA; Organization for Economic Co-operation and Development [OECD], 2001, 2004, 2007, 2010), the Progress in International Reading Literacy Study (PIRLS; Mullis et al. 2003; Mullis et al 2007) and the National Assessment of Educational Progress – The Nation's Report Card (NAEP; Rampey et al. 2009) show a distinct difference in the gender results summarized as follows: PIRLS (Mullis et al. 2001, 2006) showed a gender gap decline in fourth grade reading results; PISA (OECD, 2001, 2004, 2007, 2010), in contrast, showed an increase among 15-year-olds' reading results; and NAEP (Rampey et al. 2009) found that gender gaps remained relatively unchanged for 9, 13, and 17 year-olds but "[a]cross all three age groups, female students continued to score higher on average in reading than male students in 2008" (Rampey et al. 2009, p. 18), with a slight decrease in the gender gap between 1971 and 2008. In fact, when the PIRLS and PISA results are compared, there is more than twice the gender gap in points reported between the two.

The NAEP gender gaps are similar to the gaps reported for the United States in the PIRLS. What explanation is there for more than twice the gender gaps reported between the results of the PIRLS and those for PISA? One explanation is bias. PIRLS included test items rated as fair to boys and girls. On the other hand, PISA purposefully kept the same framework for reading assessment since 2000 and into 2012 inclusive in order to ensure validity, despite the criticism that the test favors girls (Lafontaine and Monseur 2009). It stands to reason the biased test design of the PISA contributed in part to the growing reported gender gap. Moreover, PISA (OECD 2010) reported that girls in Canada surpass boys by 34 points on reading, this appeared to be a large difference; however, this difference was out of 1000 points and not 100 as most would assume. Thus, the 3.4% variance renders a totally different interpretation of the 34 points. In addition, analysis of PISA 2001 (Lietz 2006a, b) revealed that the procedures used to scale student scores produced inflated results that could account for two-thirds of the reported difference, thus the actual variance between girls' and boys' reading achievement drops to approximately 1%. Yet

PISA 2001, 2004, 2007, and 2010 leave the reader with the erroneous impression that there is a boy crisis in reading. Two other investigations of national and cross-national reading assessment design (Lietz 2006a, b) identified that over half of the differences (59.46%) could be explained by differences in the design of the large-scale assessment programs, and in how the effect size was calculated (p. 336). Furthermore, according to Lietz (2006b), cross-national studies need to resolve how data is scaled before any discussions continue around trends in gender and achievement.

Is boys' underachievement in reading a genuine or meretricious crisis? Eight reports involving six longitudinal and two analyses of PISA data report that among average and high reading achievement groups, boys and girls have similar results. The gap is shown to be erroneous in the document, "What lies behind gender inequality in education?" (OECD 2015), wherein the evidence shows that performance differences within the genders are significantly larger than those between them. Within the genders, students from low socio-economic and ethnically diverse backgrounds are underperforming (Becker and Forsyth 1990; Entwisle et al. 2007; Husain and Millimet 2009; Martin and Hoover 1987; Matthews et al. 2010; Robinson and Lubienski 2011). Indices suggest that the gap is widening and that boys from lower SES and boys of color are most at risk. Up to now, explanations for boys' underachievement in reading are as tenuous as the claims that they are underachieving. Although the research from Downing and Thomson (1977) and Downing et al. (1979) claimed the root cause for the underachievement of males in reading is that they view reading as a feminine activity, Steiner et al. (1981) countered the claim. They reported no significant differences in reading achievement in Grades 1 to 4 and, based on student surveys reading was seen to be an enjoyable activity to boys and girls. Sokal (2010) completed a cross-national comparison of the "Prevalence of Gender Views of Reading in Thailand and Canada" and arrived at the same conclusion. Although Sokal's study primarily focused on boys from middle and high socioeconomic backgrounds, Sokal et al. (2005a) investigated an economically diverse school district in Canada and found the majority of the boys in Grade 2 enjoyed reading (about 80%).

Other researchers claim that the gender gap in reading is the result of different perceptions and attitudes toward reading, wherein reading is considered a feminine activity (Dwyer 1973; Gambell and Hunter 1999; Millard 1997). Solutions for a small subgroup of boys who viewed reading as a feminine activity (17/69 or 24%) are not resolvable by simple remedies such as offering boy-friendly books or hiring more male teachers. Sokal et al. (2009) conducted a second study with 173 third- and fourth-grade boys identified as struggling readers, and found similar findings – that the gender of the tutor had no effect on the boys' reading achievement or their self-perceptions of reading. Additionally, Sokal's and Katz's (2008) investigation reported that use of technology and male teachers also did not change boys' reading achievement or their self-perceptions. They suggested that other factors such as home, school and socio-cultural factors be explored further. A return to the former days of same-sex classes has not shown improvement in reading achievement for boys. In all case studies reviewed, the boys from same-sex classes performed no better in reading achievement than boys from coeducation classes. Qualitative

reviews from the teachers and students were also mixed (Basilo 2008; Blair and Sanford 1999; Stotsky et al. 2010; Vrooman 2009). Findings from the ten studies presented run contrary to many of the views in the mainstream media and popular literature.

## 2.3 Reading Achievement and Motivation

The current school dropout rate in some cities in North America exceeds 50% with culturally diverse and immigrant populations disproportionately represented (Schunk and Mullen 2012). Achievement and nonachievement in reading are affected by many factors; most notable is high academic motivation in the case of the achievement and low academic motivation in the case of nonachievement. Schunk et al. (2008) define motivation as the process whereby goal-directed activities are energized, directed, and sustained (p.4). Motivation to engage and learn is made up of and affected by interrelated factors and influences including personal and contextual. One's personal experiences, thoughts, emotions, beliefs, and sense of belonging/value affect and are affected by contextual factors such as the home, friends, teachers, peers, and community. Children and students need to be supported, accepted, encouraged, valued, and feel a sense of belonging. As Voelkl (2012) aptly stated, "[i]t comes as no surprise that positive behavior is associated with positive attitudes" (p.193) which shape productive behavior through a sense of belonging and motivation for continued engagement in academic and social success.

### *2.3.1 Definitional Clarifications and Underachievement*

Within the scope of this chapter, we focus on motivation and reading achievement. There are numerous substitutions in the research literature of overlapping terms used interchangeably with motivation and the most common include interest (Schiefele 1999), engagement (Christenson et al. 2012), and competence (Wylie and Hipkins 2006) and each has inherent direct and indirect effects on reading achievement. For instance, interest is a construct of motivation and embodies a desire to learn more and to be involved in that learning; motivation is having a reason for doing something and represents intention; and engagement is an act to maintain attention and interest cognitively, behaviorally, and emotionally (Fredericks et al., 2004) with motivation as the precursor. Competence, on the other hand, is both a goal and a state with "a direct pathway from motivation to read to reading competence" (Guthrie et al. 2012, p. 615). As can be seen in the national and international studies previously reported over the past 30 years on competency in literacy, there is little, if any, confirmatory and robust evidence of a gender gap in boys' and girls' reading achievement. Despite the fact solid evidence is exiguous, there

has been no shortage of unsubstantiated recommendations for how the gap may be rectified which in turn have likely hindered progress for all students (Hayward and Phillips 2009). They range from altered instructional methods, curricula, styles of engagement (individual, pairs, group), assessments, school structures, and same-sex teachers, to the reprehensible and dismissive clauses "boys will be boys" and "girls don't like math". All the while, the significant research on motivation and engagement seems either to have been misused or not used at all to inform ways to help all students truly in need of informed intervention. With the exception of low achieving boys from low SES and visible minorities, the issue of the underachievement of boys has been blown out of proportion and misrepresents the facts. The importunate construction of and focus on the underachievement of boys as a general claim in reading denies well-achieving boys their rightful standing and diminishes attention on genuine cases of low-achieving boys and girls.

### *2.3.2 Underachievement and Motivation*

Underachievement brought about by low academic motivation is a major contributor to school dropout (Schunk et al. 2008). School dropout affects youth from all backgrounds but is highest among students from culturally diverse ethnic and immigrant backgrounds (Schunk and Mullen 2012). Granted, reading competence is fundamental to learning and is affected by factors such as motivation, amount read, and reading comprehension. However, the specific nature of the mediating role among these three factors and gender marks new research.

Stutz et al. (2016) examined the relations among reading motivation, reading amount, and reading comprehension of 1053 second and third grade students. Prior studies consistently showed reading motivation and reading comprehension positively associated (Wigfield and Guthrie 1997; Schaffner et al. 2013) but the moderating effects of gender were unknown. It is known that girls tend to show a higher level of intrinsic motivation to read (Logan and Johnston 2009) and in turn read more frequently (Coles and Hall 2002), and thus are more successful in reading comprehension (Mullis et al. 2007). Even so, Stutz et al. (2016), point out that gender differences are small, and previous studies show there is "contradictory or weak evidence for a moderating role of gender in the relations among reading motivation, reading amount, and reading comprehension" (p. 104). Interestingly, Stutz et al. (2016) demonstrate "…reading amount and comprehension of both boys and girls are equally strongly associated with intrinsic reading motivation" (p. 111). Intrinsic reading motivation was measured by questioning students' curiosity to learn about interesting things, involvement in books and stories in exciting and imaginary ways, and competition to be the best in reading. The amount of reading was measured by querying whether the students read in their spare time, at bedtime, and during vacations. Reading comprehension was measured at the word, sentence, and text levels and all items focused on meaning. Stutz et al. (2016) were amongst the first to confirm significant and positive associations between intrinsic reading motivation,

reading amount and reading comprehension among young children. The core dimensions of intrinsic motivation explain a fundamental part of the story of reading achievement but other motivational factors must also be considered.

There are achievement gaps by gender, race/ethnicity, subject (reading, mathematics, and science), socio-economic status, country, second language, school resources, level of teacher support, and parental influences. Parental influences on achievement motivation and student engagement have serious consequences. From birth, parents support their children and are involved in development of their language (Deakin Crick 2012), self-discipline (Grolnick and Ryan 1989), values (Bempechat 2004), desire to learn (Brophy 1987), engagement (Cleary and Zimmerman 2012), and independence (Cooper et al. 1998). Realistically, not all parents have the capital to provide resources such as computers and the internet, or funding for extramural programs, and not all parents know how to serve as educational models and how to engage in specific types of knowledge development with their children. Nonetheless, a responsive, supportive, trusting, caring home environment and one that values an education can go a long way towards compensation for monetary and educational resources (Sample Gosse and Phillips 2007). Unfortunately, some children fall through the cracks at home and at school (Phillips et al. 2011).

Students need to feel that they belong through acceptance, respect, and the sense of inclusion in schools and by their teachers (Voelkl 2012). In rewarding and safe schools, students moderate their behaviour, feel a sense of heightened satisfaction, and develop socially, intellectually, and academically. Otherwise, over a period of time as students grow up they suffer emotional and behavioural withdrawal and drop out (Juvonen 2006). The forms of inequities and other instances of injustice and unfairness unfortunately happen on the basis of such characteristics as race/ethnicity, gender, appearance, ability, behavior, or family history (Rumberger 2011). For instance, teachers may have lower expectations for boys in reading, for girls in mathematics, and be more tolerant of prettily-dressed girls than tousled-haired boys (Pianta 1999). Even preservice teachers harbour implicit gender stereotypes and essentialist beliefs (Nürnberger et al. 2016) evident in the fact that they guide boys to undertake mathematics and science studies whereas they guide girls to undertake studies in language-oriented subjects in secondary school.

The more schools frown upon stereotypes such as gender, cultural and language differences, and family demographics (Eccles and Wang 2012) and teachers engage in fair treatment and promote identification with schooling, the more identification becomes “an internal source of motivation for continued engagement in school” (Voelkl 2012, p. 213) and ultimately academic achievement. For instance, an in-depth study of low-gender and high-gender gap schools in Ontario, revealed that teacher attitudes toward their students influenced how all students, including boys, achieved in their classrooms. When teachers demanded high standards and made efforts to ensure that all students produced quality work, there was little difference in the gender gap (Klinger et al. 2009). In addition, the presence of a strong instructional leader was deemed critical in providing a positive learning culture. In conclusion, Klinger et al. (2009) encouraged educators to refrain from focusing on

the underachievement of boys and to engage in concentrating on the sub-groups of students genuinely and unequivocally underachieving academically.

## 2.4 Concluding Remarks

The underachievement of boys continues to be seen in headlines in the popular media, and in some journals and professional literature, yet an analysis of data over time demonstrates that boys in general are *not* underachieving and girls in general are *not* overachieving. The genderization of achievement is not an advantageous step for education. The consequences of the misinterpretations and misrepresentations of students' achievement and motivation are misguided and potentially life-changing for students (Hayward and Phillips 2009).

With the exception of low achieving boys from low SES and visible minorities the issue of the underachievement of boys has been blown out of proportion and misrepresents the facts. However, if the re-emergence of boys' underachievement in reading has put a focus on good teaching practices in the classroom, then all students regardless of gender stand to benefit as educators realize that all students deserve good teaching and the best teaching and learning opportunities. Low-performing and high-performing students in reading, mathematics, and science are in all countries worldwide regardless of gender (OECD 2016). Nonetheless, the importunate construction of and focus on the underachievement of boys in reading denies well-achieving boys their rightful standing; diminishes attention on low-achieving girls; sidelines the persistent gender and racial/ethnic gaps in science proficiency (Quinn and Cooc 2015); and overshadows girls perceived underachievement in mathematics compared to that of boys (Stoet and Geary 2013). Achievement in reading increases performance in mathematics, achievement in mathematics increases performance in science which in turn raises the level of sophistication in reading, mathematics, and science. To put a fine point on the boy-girl achievement issue, gender may well be an educational boondoggle.

## References

Allington, R., & McGill-Franzen, A. (2004). Looking back. Looking forward: A conversation about teaching reading in the 21st century. In R. Ruddell & N. Unrau (Eds.), *Theoretical models and processes of reading* (pp. 5–32). Newark: International Reading Association.

Anderson, I., Hughes, B., & Dixon, W. (1956). Age of learning to read and its relation to sex, intelligence, and reading achievement in the sixth grade. *The Journal of Educational Research, 49*(6), 447–453. https://doi.org/10.1080/00220671.1956.10882303.

Anderson, I., Hughes, B., & Dixon, W. (1957). The rate of reading development and its relation to the age of learning to read, sex, and intelligence. *The Journal of Educational Research, 50*(7), 481–494. https://doi.org/10.1080/00220671.1957.10882401.

Ayres, L. (1909). *Laggards in our schools: A study of retardation and elimination in city school systems*. New York: Charities Publication Committee.

Basilo, E. (2008). *Case study of reading performance of male students and the single-sex classroom (Unpublished doctoral dissertation)*. Orlando, FL: University of Central Florida.

Becker, D., & Forsyth, R. (1990, April). *Gender differences in academic achievement in Grades 3 through 12: A longitudinal analysis*. Paper presented at the Annual Meeting of the American Educational Research Association, Boston.

Bempechat, J. (2004). The motivational benefits of homework: A social-cognitive perspective. *Theory Into Practice, 43*, 189–196. https://doi.org/10.1207/s15430421tip4303_4.

Berman, I., & Bird, C. (1933). Sex differences in speed of reading. *Journal of Applied Psychology, 17*(3), 221–226. https://doi.org/10.1037/h0075138.

Blair, H., & Sanford, K. (1999, April). *Single-sex classrooms: A place for transformation of policy and practice*. Paper presented at the Annual Meeting of the American Educational Research Association, Montreal.

Blakemore, J., Berenbaum, S., & Liben, L. (2009). *Gender development*. New York: Psychology Press.

Brophy, J. E. (1987). Synthesis of research on strategies for motivating students to learn. *Educational Leadership, 44*, 40–48.

Canadian Council on Learning. (2007). *State of learning in Canada: No time for complacency*. Retrieved from http://www.ccl-cca.ca/ccl

Christenson, S. L., Reschly, A., & Wylie, C. (Eds.). (2012). *Handbook of research on student engagement*. New York: Springer.

Clark, W. (1959). Are there significant ability and achievement differences? *The Phi Delta Kappan International, 41*(2), 73–76.

Cleary, T. J., & Zimmerman, B. J. (2012). A cyclical self-regulatory account of student engagement: Theoretical foundations and applications. In S. L. Christenson, A. L. Reschly, & C. Wylie (Eds.), *Handbook of research on student engagement* (pp. 237–257). New York: Springer.

Coles, M., & Hall, C. (2002). Gendered readings: Learning from children's reading choices. *Journal of Research in Reading, 25*, 96–108. https://doi.org/10.1111/1467-9817.00161.

Commins, W. D. (1928). More about sex differences. *School and. Society, 28*, 599–600.

Cooper, H., Lindsay, J. J., Nye, B., & Greathouse, S. (1998). Relationships among attitudes about homework, amount of homework assigned and completed, and student achievement. *Journal of Educational Psychology, 90*, 70–83.

Deakin Crick, R. (2012). Deep engagement as a complex system: Identity, learning power and authentic enquiry. In S. L. Christenson, A. L. Reschly, & C. Wylie (Eds.), *Handbook of research on student engagement* (pp. 675–694). New York: Springer.

Downing, J., & Thomson, D. (1977). Sex role stereotypes in learning to read. *Research in the Teaching of English, 11*(2), 149–155.

Downing, J., Dwyer, C., Feitelson, D., Jansen, M., Kemppainen, R., Matihaldi, H., & Thomson, D. (1979). A cross-national survey of cultural expectations and sex role standards in reading. *Journal of Research in Reading, 2*(1), 8–23. https://doi.org/10.1111/j.1467-9817.1979.tb00188.x.

Doyle, D. P. (1991). America 2000. *Phi Delta Kappan, 74*(3), 184–191.

Dwyer, C. (1973). Sex differences in reading: An evaluation and a critique of current theories. *Review of Education Research, 43*(4), 455–467. https://doi.org/10.3102/00346543043004455.

Dykstra, R., & Tinney, R. (1969). Sex differences in reading readiness— First-grade achievement and second-grade achievement. *Reading and Realism, 13*, 623–628.

Eccles, J., & Wang, M. (2012). Part 1 commentary: So what is student engagement anyway? In S. L. Christenson, A. L. Reschly, & C. Wylie (Eds.), *Handbook of research on student engagement* (pp. 133–148). New York: Springer.

Entwisle, S., Alexander, K., & Olson, L. (2007). Early schooling: The handicap of being poor and male. *Sociology of Education, 80*(2), 114–138. https://doi.org/10.1177/003804070708000202.

Finn, J. (1980). Sex differences in educational outcomes: A cross-national study. *Sex Roles, 6*(1), 9–26. https://doi.org/10.1007/BF00288358.

Flesch, R. (1955). *Why Johnny can't read*. New York: Harper & Brothers.

Flynn, J., & Rahbar, M. (1994). Prevalence of reading failure in boys compared with girls. *Psychology in the Schools, 31*(1), 66–71. https://doi.org/10.1002/1520-6807(199401)31:1<66::AID-PITS2310310109>3.0.CO;2-J.

Fredericks, J. A., Blumenfeld, P. C., & Paris, A. H. (2004). School engagement: Potential of the concept, state of the evidence. *Review of Educational Research, 74*, 59–109. https://doi.org/10.3102/00346543074001059.

Gambell, T., & Hunter, D. (1999). Rethinking gender differences in literacy. *Canadian Journal of Education, 24*(1), 1–16. https://doi.org/10.2307/1585767.

Goodman, K., & Goodman, Y. (1980). Learning to read is natural. In L. B. Resnick & P. A. Weaver (Eds.), *Theory and practice of early reading* (Vol. 1, pp. 137–154). Hillsdale: Erlbaum.

Gorski, P. C. (1999). A brief history of multicultural education Retrieved from http://www.edchange.org/multicultural/papers/edchange_history.html

Grolnick, W. S., & Ryan, R. M. (1989). Autonomy in children's learning: An experimental and individual different investigation. *Journal of Personality and Social Psychology, 52*, 890–898.

Guthrie, J. T., Wigfield, A., & You, W. (2012). Instructional contexts for engagement and achievement in reading. In S. L. Christenson, A. L. Reschly, & C. Wylie (Eds.), *Handbook of research on student engagement* (pp. 601–634). New York: Springer.

Harper, S., & Pelletier, J. (2008). Gender and language issues in assessing early literacy. *Journal of Psychoeducational Assessment, 26*(2), 185–194. https://doi.org/10.1177/0734282908314105.

Hayward, D. V., & Phillips, L. M. (2009). Considering research quality and applicability through the eyes of stakeholders. In M. C. Shelley II, L. D. Yore, & B. Hand (Eds.), *Quality research in literacy and science education: International perspectives and gold standards* (pp. 139–148). Dordrecht: Springer.

Hogrebe, M. C., Nist, S. L., & Newman, I. (1985). Are there gender differences in reading achievement? An investigation using the high school and beyond data. *Journal of Educational Psychology, 77*(6), 716–724.

Husain, M., & Millimet, D. (2009). The mythical 'boys crisis'? *Economics of Education Review, 28*(1), 38–48.

Jordon, A. M. (1937). Sex differences in mental traits. *High School Journal, 20*, 254–261.

Juvonen, J. (2006). Sense of belonging, social bonds, and school functioning. In P. A. Alexander & P. H. Winne (Eds.), *Handbook of educational psychology* (pp. 655–674). Mahwah: Erlbaum.

Klinger, D., Shulha, L., & Wade-Woolley, L. (2009). *Towards an understanding of gender difference in literacy achievement.* Toronto, ON: Education Quality and Accountability Office (EQAO).

Lafontaine, D., & Monseur, C. (2009). Gender gap in comparative studies of reading comprehension: To what extent do the test characteristics make a difference? *European Educational Research Journal, 8*(1), 69–79. https://doi.org/10.2304/eerj.2009.8.1.69.

Lietz, P. (2006a). A meta-analysis of gender differences in reading achievement at the secondary school level. *Studies in Educational Evaluation, 32*, 317–344. https://doi.org/10.1016/j.stueduc.2006.10.002.

Lietz, P. (2006b). Issues in the change in gender differences in reading achievement in cross-national research since 1992: A meta-analytic view. *International Education Journal, 7*(2), 127–149.

Lincoln, E. A. (1927). *Sex differences in the growth of American school children*. Baltimore: Warwick and York.

Loerke, K. (2012). *Persistent and contradictory comparative claims of boys' and girls' reading achievement: A historical interpretive approach* (Unpublished doctoral dissertation). University of Alberta, Edmonton.

Logan, S., & Johnston, R. (2009). Investigating gender differences in reading ability and attitudes: Examining where these differences lie. *Journal of Research in Reading, 32*, 199–214.

Lummis, M., & Stevenson, H. (1990). Gender differences in beliefs and achievement: A cross-cultural study. *Developmental Psychology, 26*(2), 254–263.
Maccoby, E. (Ed.). (1966). *The development of sex differences*. Stanford: Stanford University Press.
MacFarlane, L. (2001). *Gender differences in reading achievement and early literacy experiences* (Unpublished master's thesis). Kean University, Union.
Martin, J., & Hoover, H. (1987). Sex differences in educational achievement: A longitudinal study. *The Journal of Early Adolescence, 7*(1), 65–83.
Matthews, J., Kizzie, K., Rowley, S., & Cortina, K. (2010). African Americans and boys: Understanding the literacy gap, tracing academic trajectories, and evaluating the role of learning-related skills. *Journal of Educational Psychology, 102*(3), 757–771.
Millard, C. (1940). The nature and character of pre-adolescent growth in reading achievement. *Child Development, 11*(2), 71–114. https://doi.org/10.2307/1125842.
Millard, E. (1997). *Differently literate: Boys, girls and the schooling of literacy*. London: Falmer Press.
Monaghan, J. (2007). Scientific research and progressive education: Contexts for the early reading pioneers, 1870–1956. In S. Israel & J. Monaghan (Eds.), *Shaping the reading field* (pp. 1–32). Newark: International Reading Association.
Mullis, I. V. S., Martin, M. O., González, E. J., & Kennedy, A. M. (2003). *PIRLS 2001 international report: IEA's study of reading literacy achievement in primary school in 35 years*. Chestnut Hill: International Study Center, Lynch School of Education, Boston College.
Mullis, I., Martin, M., Kennedy, A., & Foy, P. (2007). *IEA's progress in international reading literacy study in primary school in 40 countries*. Chestnut Hill: TIMSS & PIRLS International Study Center, Lynch School of Education, Boston College.
Nürnberger, M., Nerb, J., Schmitz, F., Keller, J., & Sütterlin, S. (2016). Implicit gender stereotypes and essentialist beliefs predict preservice teachers' tracking recommendations. *The Journal of Experimental Education, 84*(1), 152–174. https://doi.org/10.1080/00220973.2015.1027807.
Organisation for Economic Co-operation and Development. (2001). *Knowledge and skills for life: First results from PISA 2000*. Paris: OECD Publishing. https://doi.org/10.1787/9789264195905-en.
Organisation for Economic Co-operation and Development. (2004). *Learning for tomorrow's world: First results from PISA 2003*. Paris: OECD Publishing. https://doi.org/10.1787/9789264006416-en.
Organisation for Economic Co-operation and Development. (2007). *Science competencies for tomorrow's world: Volume 1 analysis*. Paris: OECD Publishing. https://doi.org/10.1787/9789264040014-en.
Organisation for Economic Co-operation and Development. (2010). *PISA 2009 results: What students know and can do: Student performance in reading, mathematics and science* (Vol. 1). Paris: OECD Publishing. https://doi.org/10.1787/9789264091450-en.
Organisation for Economic Co-operation and Development. (2015). *What lies behind gender inequality in education? PISA in focus*., No. 49. Paris: OECD Publishing. https://doi.org/10.1787/5js4xffhhc30-en.
Organisation for Economic Co-operation and Development. (2016). *Who are the low-performing students? PISA in Focus*., No. 60. Paris: OECD Publishing. https://doi.org/10.1787/5jm3xh670q7g-en.
Parsley, K., Powell, M., O'Connor, H., & Deutsch, M. (1963). Are there really sex differences in achievement? *The Journal of Educational Research, 57*(4), 210–212. https://doi.org/10.1080/00220671.1963.10883063.
Petticrew, M., & Roberts, H. (2006). *Systematic review in the social sciences: A practical guide*. Padstow: Blackwell Publishing.
Phillips, L. M., Norris, S. P., Osmond, W., & Maynard, A. (2002). Relative reading achievement: A longitudinal study of 187 children from first through sixth grades. *Journal of Educational Psychology, 94*(1), 3–13.

Phillips, L. M., Hayward, D. V., & Norris, S. P. (2011). Persistent reading disabilities: Challenging six erroneous beliefs. In A. McGill-Franzen & R. Allington (Eds.), *The handbook of reading disability research* (pp. 110–119). New York: Routledge.

Pianta, R. C. (1999). *Enhancing relationships between children and teachers*. Washington, DC: American Psychological Association.

Prescott, G. (1955). Sex differences in metropolitan readiness test results. *The Journal of Educational Research, 48*(8), 605–610.

Pressey, L. W. (1918). Sex differences shown by 2,544 school children on a group scale of intelligence with special reference to variability. *Journal of Applied Psychology, 2*, 323–340. https://doi.org/10.1037/h0070429.

Quinlan, L. (1996). *The effects of school entry age and gender on reading, achievement scores of third grade students* (Unpublished master's thesis). Kean University, Union.

Quinn, D. M., & Cooc, N. (2015). Science achievement gaps by gender and race/ethnicity in elementary and middle school: Trends and predictors. *Educational Researcher, 44*(6), 336–346. https://doi.org/10.3102/0013189X15598539.

Rampey, B., Dion, G., & Donahue, P. (2009). *NAEP 2008 trends in academic progress*. Washington, DC: National Center for Education Statistics, Institute of Education Sciences, U.S. Department of Education.

Robinson, J., & Lubienski, S. (2011). The development of gender achievement gaps in mathematics and reading during elementary and middle school: Examining direct cognitive assessments and teacher ratings. *American Educational Research Journal, 48*(2), 268–302. https://doi.org/10.3102/0002831210372249.

Rumberger, R. W. (2011). *Dropping out: Why students quit school and what can be done about it*. Cambridge: Harvard University Press.

Sample Gosse, H. L., & Phillips, L. M. (2007). No gain in blame: Fostering collaborations between home and school. In Y. Goodman & P. Martens (Eds.), *Critical issues in early literacy: Research and pedagogy* (pp. 191–201). Mahwah: Lawrence Erlbaum Associates.

Samuels, F. (1943). Sex differences in reading achievement. *The Journal of Educational Research, 36*(8), 594–603. https://doi.org/10.1080/00220671.1943.10881200.

Sarroub, L., & Pearson, D. (1998). Two steps forward, three steps back: The stormy history of reading comprehension assessment. *Faculty Publication: Department of Teaching, Learning and Teacher Education,* Paper 39. Retrieved from http://digitalcommons.unl.edu/teachlearnfacpub/39

Schaffner, E., Schiefele, U., & Ulferts, H. (2013). Reading amount as a mediator of the effects of intrinsic and extrinsic reading motivation on reading comprehension. *Reading Research Quarterly, 48*, 369–385. https://doi.org/10.1007/s11145-008-9133-y.

Schiefele, U. (1999). Interest and learning from text. *Scientific Studies of Reading, 3*, 257–279. https://doi.org/10.1207/s1532799xssr0303_4.

Schunk, D. H., & Mullen, C. A. (2012). Self-efficacy as an engaged learner. In S. L. Christenson, A. L. Reschly, & C. Wylie (Eds.), *Handbook of research on student engagement* (pp. 219–235). New York: Springer.

Schunk, D. H., Pintrich, P. R., & Meece, J. L. (2008). *Motivation in education: Theory, research, and applications* (3rd ed.). Upper Saddle River: Pearson Education.

Sinks, N., & Powell, M. (1965). Sex and intelligence as factors in achievement in reading in grades 4 through 8. *The Journal of Genetic Psychology, 106*(1), 67–79. https://doi.org/10.1080/00221325.1965.10533083.

Sokal, L. (2010). Prevalence of gendered views of reading in Thailand and Canada. *Alberta Journal of Educational Research, 56*(1), 44–56.

Sokal, L., & Katz, L. (2008). Effects of technology and male teachers on boys' reading. *The Australian Journal of Education, 52*(1), 80–93. https://doi.org/10.1177/000494410805200106.

Sokal, L., Katz, H., Adkins, M., Gladu, A., Jackson-Davis, K., & Kussin, B. (2005a). Boys will be "boys": Variability in boys' experiences of literacy. *Alberta Journal of Educational Research, 51*(3), 216–230.

Sokal, L., Katz, H., Adkins, M., Grills, T., Stewart, C., Priddle, G., & Chochinov-Harder, L. (2005b). Factors affecting inner-city boys' reading: Are male teachers the answer? *Canadian Journal of Urban Research, 14*(1), 107–130.

Sokal, L., Thiem, C., Crampton, A., & Katz, H. (2009). Differential effects of male and female reading tutors based on boys' gendered views of reading. *Canadian Journal of Education, 32*(2), 245–270.

Steiner, E., Steinen, R., & Newman, I. (1981). A current investigation of sex differences in reading achievement and the sex-typing of reading. Paper presented at the annual meeting of the *American Educational Research Association*, Los Angeles.

Stoet, G., & Geary, D. C. (2013). Sex differences in mathematics and reading achievement are inversely related: Within– and across– nation assessment of 10 years of PISA data. *PLoS One, 8*(3), 1–10. https://doi.org/10.1371/journal.pone.0057988.

Stotsky, S., Denny, G., & Tschepikow, N. (2010). Single-sex classes in two Arkansas elementary schools: 2008–2009. *Education Working Paper Archive*. Fayetteville, AR: University of Arkansas. Retrieved from http://isu468research.wikispaces.com /file/view/Single+-+Sex+classes+-+Stotsky.pdf.

Stroud, J. B., & Linquist, E. F. (1942). Sex differences in achievement in the elementary and secondary schools. *Journal of Educational Psychology, 33*, 657–667. https://doi.org/10.1037/h0057124.

Stutz, F., Schaffner, E., & Schiefele, U. (2016). Relations among reading motivation, reading amount, and reading comprehension in the early elementary grades. *Learning and Individual Differences, 45*, 101–113. https://doi.org/10.1016/j.lindif.2015.11.022.

Thorndike, E. (Ed.). (1903). Heredity, correlation and sex differences in school abilities. *Columbia University Contributions to Philosophy*. *Psychology and Education, 6*(2), 1–60.

Thorndike, R. (1973). *Reading comprehension education in fifteen countries: International studies in education III*. New York: Halsted Press.

Traxler, A. E. (1935). Sex differences in rate of reading in the high school. *Journal of Applied Psychology, 19*, 351–352. https://doi.org/10.1037/h0055423.

Voelkl, K. E. (2012). School identification. In S. L. Christenson, A. L. Reschly, & C. Wylie (Eds.), *Handbook of research on student engagement* (pp. 193–218). New York: Springer.

Vrooman, M. (2009). An examination of the effects of single-gender classes on reading and mathematics achievement test scores of middle school students (Unpublished doctoral dissertation). University of Oklahoma, Norman.

Wargacki, J. (2008). *High-stakes testing and the gender gap: A study of fourth grade reading performance on the Ohio achievement test* (Unpublished master's thesis). Green State University, Bowling Green

White, B. (2007). Are girls better readers than boys? Which boys? Which girls? *Canadian Journal of Education, 30*(2), 554–581. https://doi.org/10.2307/20466650.

Wigfield, A., & Guthrie, J. T. (1997). Relations of children's motivation for reading to the amount and breath of their reading. *Journal of Educational Psychology, 89*, 420–432.

Wylie, C., & Hipkins, R. (2006). *Growing independence: Competent learners at 14*. Wellington: Ministry of Education.

# Chapter 3
# Contextual Influences on Girls' and Boys' Motivation and Reading Achievement: Family, Schoolmates, and Country


**Ming Ming Chiu**

**Abstract** Girls outperform boys in reading, in part, due to differences in motivation and context effects (of family, schoolmates, and country). Compared to boys, girls tend to have more positive attitudes toward reading, enjoy it more, value it more, read more often and view themselves as competent in reading. Also, richer families buy more educational resources for boys than for girls, but girls engage in more family communication; both distinctions yield corresponding differences in motivation and reading achievement. Furthermore, girls typically participate in peer cultures at school with more female schoolmates who show greater reading motivation, more reading, and more discussion of books compared to other peer cultures with more male schoolmates; as a result, students in peer groups with more girls often have higher reading achievement. Also, richer countries offer more publicly available educational resources (public schools, museums, etc.) than poorer countries, so these resources substitute for educational resources at home, reduce their gender disparity at home, and raise girls' reading advantage over boys. In countries with greater economic equality, students show higher overall reading achievement, and girls especially benefit from the parity in resources, which increases their reading gap with boys. Lastly, masculine cultures with rigid gender roles often discourage girls' ambitions for high status, masculine jobs, which reduces their extrinsic reading motivation and reading achievement, compared to girls in other cultures.

**Keywords** Family · Schoolmates · Economy · Cultural values · Reading

Large scale, international studies have consistently shown that girls outscored boys on reading tests on average (e.g., Chiu et al. 2012) and that girls were more likely than boys to have basic reading skills (vocabulary, reading comprehension of a

M. M. Chiu (✉)
Department of Special Education and Counselling, Faculty of Education and Human Development, The Education University of Hong Kong, Ting Kok, Hong Kong
e-mail: mingchiu@eduhk.hk



P. Orellana García, P. Baldwin Lind (eds.), *Reading Achievement and Motivation in Boys and Girls*, Literacy Studies 15,
https://doi.org/10.1007/978-3-319-75948-7_3

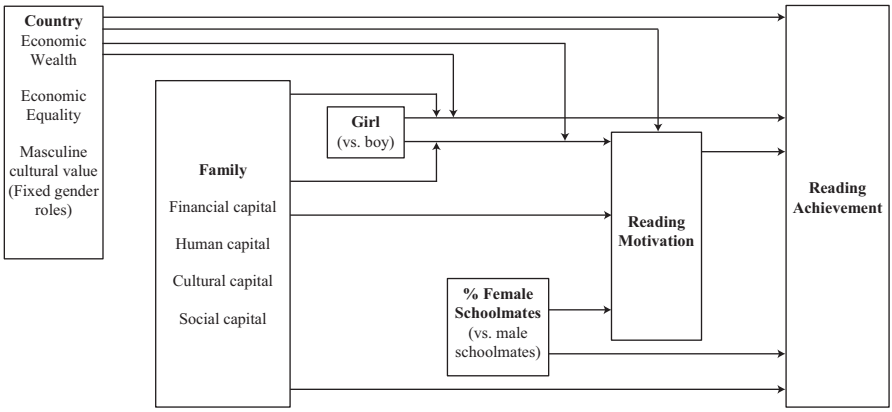


**Fig. 3.1** Relations among country, family, gender, schoolmates, reading motivation and reading achievement

simple sentence, e.g., Chiu et al. 2007; Muter 2003). For example, in Chiu et al. (2007) study of students in 41 countries, girls outscored boys in reading in all countries (by an average of 4%). In Chiu et al. (2012) study, boys were less likely than girls to have basic reading skills in all 38 countries (by an average ratio of 2 to 1; see also Muter 2003). Still, most of the differences were across countries (61%) or schools (30%) rather than individuals (9%). Gender differences in both motivation and context effects help account for these reading achievement differences (see Fig. 3.1; Chiu et al. 2007). Girls differ from boys in their reading attitudes, beliefs and motivations (Chiu and Klassen 2009). Furthermore, some effects of family, school and country contexts on reading achievement also differ across boys and girls (Chiu and Chow 2015a, b).

## 3.1 Motivation and Reading Achievement

Students' reading motivation is determined by their expectancies for success—their beliefs about their achievement on academic tasks. These expectancy beliefs include two types of expectations (Chiu and Klassen 2009). One type of expectation is whether specific reading behaviors will lead to predicted reading outcomes (*outcome expectations*). A second expectation is whether an individual's reading competence is sufficient to execute that reading behavior to produce the predicted reading outcome (*efficacy expectations*). Students' beliefs of their competence on reading tasks and their subjective values attached to them play prominent roles in these expectancy beliefs. Specifically, students who value a reading task and believe that they complete it successfully are more likely to exert greater effort and to outperform other students (Pintrich and Schunk 2002).

According to social cognitive theory, expectancy beliefs include self-efficacy and self-concept which refer, respectively, to beliefs in one's capability to succeed and in one's competence in a particular domain relative to one's counterparts (Valentine et al. 2004). Thus, reading self-efficacy is the belief in one's own capabilities to carry out a reading task, ("I can read long novels") and reading self-concept is the belief in one's competence in reading relative to others, ("I'm good at reading," Valentine et al. 2004). According to expectancy value theory, students who are motivated to read tend to persevere longer in the face of reading difficulties compared to other students (Wigfield and Eccles 2000). These motivations can be *intrinsic* (e.g., reading is interesting) or *extrinsic* (e.g., reading will help me get a good job). In Western countries, motivation research has shown that intrinsically motivated students who have greater interest in reading often exert greater effort and have greater perseverance compared to extrinsically motivated students who view reading as a utility for external goals; hence, students that are more intrinsically motivated often have higher academic achievement than students who are primarily extrinsically motivated (D'Ailly 2003; Deci and Ryan 2002). These links are bi-directional, as past successes also increase motivation (Pintrich and Schunk 2002).

## 3.2 Gender Differences in Reading Motivation

Compared to boys, girls typically have more positive reading attitudes, enjoy reading more, read more books, have better reading skills, and have higher reading self-concept and self-efficacy in many societies (Chiu et al. 2007; Wagemaker et al. 1996). This gender difference in reading motivation may stem from the greater valuing of literacy activities among females than males across many societies (Blackburn 2003).

Gender differences in behavioral/discipline problems might also account for some of these gender differences in reading motivation. Boys are more likely than girls to have behavioral/discipline problems (e.g., fighting, truancy). These behavioral problems often interfere with their studies and reduce their overall academic motivation and achievement (including their reading motivation and achievement, Chiu and Chow 2011).

## 3.3 Family

Family, school, and country contexts can also affect reading motivation and achievement, often yielding gender differences. Children develop within a complex environment that consists of multiple levels of surrounding contexts, according to Bronfenbrenner's (2005) *ecological system theory*. The immediate contexts (*microsystems*; e.g., family, school) and the broader culture and country resources

(*macrosystem*; e.g., economy, cultural values) can both influence students' reading motivation and reading achievement. Furthermore, these influences can differ across boys and girls.

Family members can give children extra resources or compete for them. On the one hand, additional family members who provide resources (especially parents) offer more learning opportunities on which children can capitalize to improve their reading skills (*resource provider* hypothesis; Chiu 2013a). Meanwhile, family members who primarily compete with a child for limited family resources (such as siblings and grandparents) reduce available resources for the child, resulting in fewer learning opportunities to improve their reading (*resource dilution*; Downey 2001).

### *3.3.1 Families' Resource Providers*

Families whose members earn higher incomes or are more educated often have higher status (*socio-economic status* or *SES*) and buy more books and other education resources to highlight the value of reading and motivate their children to capitalize on them to read more (Chiu and Khoo 2005). Specifically, when a student's family SES is 10% higher than average, he or she averages 3% higher reading achievement than other students (see Sirin's (2005) meta-analysis). SES effects on reading achievement tend to be stronger for those in early and middle childhood and persist into adolescence (Brooks-Gunn et al. 1999). Families differ with respect to their financial capital (wealth), human capital (e.g., education), cultural capital (knowledge of dominant culture and society), and social capital (social network resources; Chiu 2013a). Moreover, these types of family capital and their benefits show gender differences.

### *3.3.2 Financial Capital*

Richer families have greater income and wealth (*financial capital*) than poorer families and can use them to give their children more books, reading resources and reading activities to motivate them and help them to read (Chiu and Khoo 2005). For example, richer families often give their children more physical resources (quiet study room, computers, books, etc.), thereby creating a richer reading environment. These families also tend to appreciate and buy higher quality resources, such as age-appropriate books and reading software for their children. Buying their children many reading resources also highlights stronger family valuation, commitment and support for their reading, which encourages their children to likewise value reading and often increases their children's motivation to read. Furthermore, non-educational resources such as expensive clothes serve as status symbols that can enhance children's status among their peers, which can help them make friends at school, utilize

their friends' resources at school, and have more positive attitudes about school. Richer families can also pay for stimulating activities, such as talks and workshops with famous authors, to enhance their children's reading motivation.When families favor sons over daughters, they tend to invest more in their sons (Chiu 2008a, b). Such families buy more books and reading activities for their sons than for their daughters, which tend to increase their sons' motivations to read and improve their reading performance. In Chiu and Chow's (2010) study of students in 41 countries, boys averaged 15% more home educational resources than girls in comparable SES families. As boys benefit from these additional resources, the gender gap in reading between boys and girls would be even larger if girls had the same amount of resources at home (Chiu and McBride-Chang 2010).

### *3.3.3 Human Capital*

Meanwhile, families with more human capital can create more conducive physical environments, engage their children in more supportive learning activities, and design more appropriate reward/discipline structures to help socialize children into society (Chiu and Khoo 2005). In particular, families with highly educated parents tend to appreciate and buy (or make) higher quality physical resources, such as rooms for quiet study and age-appropriate books for children. By doing so, they create stimulating and reflective reading environments that enhance their children's reading motivation and reading achievement. As noted above, families tend to give more education materials to sons than to daughters, so boys tend to benefit more than girls from such resources given by parents with more education.

Families with more human capital are also more likely to create suitable motivation, reward and discipline structures (Chiu and Joh 2015). Parents with more human capital clarify and organize their children's time to read at regular hours, praise them for exerting effort, and help them understand the consequences of not putting effort into their studies. By doing so, these families foster compassionate, social interactions; diligent, academic study; and joyful, creative expression. As a result, these students are better prepared to read diligently, behave properly in school and have higher reading achievement.

### *3.3.4 Social Capital*

Higher SES families are more likely than lower SES families to spend more time with their children and have larger and richer social networks of family, friends and acquaintances (*social capital*, Coleman 1990; Lareau 2001). Connecting a child with family members' networks can add to a child's social capital.

Children with higher SES parents often spend more time together due to fewer competing siblings, less parent time on housework, and multi-tasking parents

(Parcel and Dufur 2001; Sandberg and Hofferth 2001). Such families with more human capital can help children socialize through both education-specific activities and general activities (Chiu and Chow 2015a, b). For example, a parent might talk with a child about school matters such as homework, recent political events, books, and so on. They can also chat during dinner, tell one another stories, play games, wash the dishes, or generally spend time together. Through these interactions, family members can serve as role models, ask provoking questions or give explicit instructions, all of which can help children learn linguistic, cognitive, behavioral and social skills. Much communication occurs in the form of individual or jointly-constructed stories, precursors to reading literacy. These stories and other conversations help children develop language skills and enrich their vocabulary. Highly-educated family members, especially parents, can monitor and supervise their children more actively and have more information and skills than other parents to teach their children. Compared to boys, girls spend more time talking with their adult family members, benefit more from these social interactions, and develop better verbal and social skills (Chiu et al. 2007).

Furthermore, the members of high SES families' extensive social networks can offer additional complementary financial, human, cultural, and social capital to support their children's learning (Chiu 2013a). For example, relatives or friends may lend an interesting book to a child to read, and then discuss it upon its return. As noted above, family communication helps children develop linguistic skills, including discourse skills that help children communicate with both their peers and teachers. Children who communicate better are more liked and more accepted by their peer group, resulting in greater academic motivation and a larger network of friends and acquaintances. Furthermore, educated members of the network of a child's family can help acculturate the child to academic conversation norms and expectations that facilitate their understanding and use of them in school. Compared to boys, girls often have greater social skills and interactions with family members' social networks, so they tend to benefit more from higher SES families' greater social capital.

### *3.3.5 Cultural Capital*

As families with more financial capital or human capital often have more cultural possessions, cultural experiences and time, they can use them to give their children more opportunities to learn these cultural resources, knowledge, skills and values and thereby adapt more easily to the culture of their family, school, and local community (*cultural capital*, Chiu and Chow 2010). Cultural possessions at home (e.g., poetry, paintings, etc.) can exemplify the importance of one's culture, motivate children to learn and use them, and facilitate family communication about cultural values and norms.

During cultural conversations, family members can model appropriate societal behaviors and explain cultural norms to help their children learn the cultural values

of their family, school, and society (Chiu 2013b). Specifically, these cultural conversations can help children better understand teachers' and schoolmates' expectations in school so that they can behave appropriately and build better relationships with them (Pan et al. 2000). By doing so, families can help children understand and adapt to other people's expectations of them.

As a result, greater family cultural capital can also increase the consonance between family and societal cultural values, which can help children adapt to the culture of their school more easily (Ogbu 2007). Combined with their cognitive skills, metacognitive skills and social skills, children's adaptation to others' expectations helps them build friendships with teachers and students (Chiu 2013a). Such friendships encourage teachers and peers to support these children with more learning opportunities. As a result, these children with more cultural capital are more likely than other students to be more motivated, learn more, and be more successful in school (Chiu and Chow 2010). As noted above, girls tend to interact with family members more than boys do. As a result, girls with more cultural possessions or cultural communication at home tend to benefit more from them and have higher reading motivation and achievement, compared to boys in similar homes and schools (Chiu and Chow 2010).

### *3.3.6 Dilution of Family Resources*

Meanwhile, family members (such as siblings and grandparents) who primarily compete with a child for limited family resources reduce available resources to that child, resulting in fewer learning opportunities, less parental support, lower motivation to read, and less reading achievement (*resource dilution*; Downey 2001). Thus, students with more siblings at home often have fewer resources and achieve less than those with fewer resident siblings (Downey 2001). Older siblings tend to receive more family resources than do younger siblings because they compete with younger siblings for family resources only after the latter's births (Powell and Steelman 1993).

In cultures that favor sons, families often have more children until they have at least one son. As a result, girls in such cultures are more likely than boys to have many siblings who compete for scarce family resources. Thus, dilution of family resources is more likely to affect such girls, reduce their learning opportunities, parental support, motivation to read, and reading achievement compared to other children.

In short, privileged families provide their children with more financial, human, social or cultural capital. A family's financial, human and social capital provides learning opportunities on which children can capitalize to learn more. Along with family cultural capital, children can use them to understand others' expectations and have better relationships with teachers and students, which can enhance their motivation and learning opportunities. In cultures that favor boys over girls, families tend to provide more tangible educational resources and learning opportunities to

their sons than to their daughters. Compared to boys, however, girls tend to interact with family members more and acquire more social skills and benefits from these intangible interactions in the form of greater reading motivation and achievement.

## 3.4 Schoolmates

In addition to differential family effects on boys' and girls' reading motivations and achievement, their schoolmates influence them and show gender effects. Children spend a large proportion of time at school and interact regularly with their schoolmates who can help them learn both directly and indirectly (Skibbe et al. 2012).

### *3.4.1 Schoolmate Benefits*

Schoolmates can directly help a student learn by sharing information or evaluations. For example, a schoolmate can explain the meaning of a vocabulary word (Murphey 1994). Also, when a student proposes an idea, a schoolmate can recognize its validity and further justify it (Chiu 2008a, b) or identify its flaws and correct it (Chiu and Khoo 2003). Thus, schoolmates can provide information, validate correct ideas or recognize flaws to help a student learn.

Schoolmates can also help a student learn indirectly through motivation and norms. They can motivate a student to enjoy learning, which helps them exert effort and persevere when facing setbacks (Chiu and McBride-Chang 2006). For example, a schoolmate can show enthusiasm for a storybook character, which can entice a student to study together (Skibbe et al. 2012). When a student performs poorly on a reading test, a schoolmate can provide emotional support and encourage further study to do better on the next test (Skibbe et al. 2012). Hence, schoolmates can motivate a student via greater enjoyment, study time, and perseverance.

In addition to motivation, schoolmates can help create and maintain norms of attitude, behavior and achievement, both among friends and within the classroom. Schoolmates can articulate and model positive reading attitudes, behave within discipline norms, study hard and perform well on tests, essays and other academic measures. Together, schoolmates can cultivate a culture of positive attitudes toward reading in which to immerse a student (Johnson and Johnson 1999). Supported by these positive attitudes, schoolmates can model appropriate classroom behavior (e.g., raise hands to answer teacher questions, rather than interrupting) and encourage a student to behave accordingly (Ma and Willms 2004). Buttressed by these attitudes and behaviors, schoolmates are more likely to have higher reading achievement, which raises a student's reading expectations (Baker and Wigfield 1999).

### 3.4.2 Schoolmate Gender Differences

Schoolmate gender is also linked to reading motivation and achievement. Compared to boys, girls typically enjoy reading more, read books more often and have higher reading achievement (Chiu et al. 2007). As girls interact with one another more than with boys, a girl typically has more female friends than a boy does (Chiu and Chow 2015a, b).

Hence, academic peer cultures with more girls include greater reading enjoyment, more reading, and more discussion of books compared to peer cultures with more boys. As a result, academic peer cultures with more girls socialize and support its members to enjoy reading and appreciate its importance (e.g., Blackburn 2003). Compared to a boy, a girl is more likely to enjoy an academic peer culture with more girls that fosters reading, which in turn supports her own greater reading enjoyment, greater frequency of reading and higher reading achievement (Chiu et al. 2007). In contrast, boys are more likely to enjoy reading that helps them improve their proficiency at a specific activity (e.g., information to help fix a car), often in non-academic peer cultures. International studies show that both boys and girls in schools with a larger proportion of girls tend to have greater reading enjoyment and greater reading achievement compared to students in schools with proportionally fewer girls (e.g., Chiu et al. 2007).

In short, while schoolmates can help a student learn directly (e.g., sharing information, evaluations) or indirectly (motivation, supportive reading norms), schoolmate gender yields differential effects. In schools with a larger proportion of girls, both its male students and its female students tend to have greater reading enjoyment and greater reading achievement, compared to students in schools with proportionally fewer girls.

## 3.5 Country

A country's language(s), economy and cultural values can also affect a student's reading motivation and achievement. Furthermore, many country effects show gender differences.

### 3.5.1 National Language(s)

Across cultures, language-related problems tend to be more prevalent in boys (Halpern 2000). Still, poor reading may develop differently across cultures. For example, the phonological core deficit central to defining dyslexia in Western cultures (e.g., Lyon et al. 2003) may not apply equally to reading in very different orthographies such as Chinese (e.g., Ho et al. 2003). In countries with speakers of

multiple languages, a country's valuing of specific languages for learning and business may influence which languages (and when) children are required to learn to read, write, and speak at school (e.g., McBride-Chang 2004).

### 3.5.2 Economy

A country's economic wealth or inequality can influence reading achievement. Richer countries often have more public educational resources and learning opportunities that can increase students' reading achievement. Moreover, economic equality can affect gender differences.

### 3.5.3 Economic Wealth

Students in countries with higher real gross domestic product (GDP) per capita (e.g., Japan) often capitalize on their countries' greater resources to learn more. These richer countries can raise student learning directly through education spending (e.g., books, teacher training) or indirectly through higher nutritional standards or better health care (United Nations Children's Fund [UNICEF] 2011). For example, children in poorer countries (such as Papua New Guinea) often lack basic nutrition, are born prematurely, or face exposure to potentially harmful environments (e.g., lead poisoning). As a result, students in richer countries generally show higher reading achievement compared to students in poorer countries (e.g., Baker et al. 2002; Chiu 2010; Heyneman and Loxley 1982).

Richer countries also have more publicly-available, educational resources (public schools, museums, etc.) than poorer countries (Chiu 2015). These public education resources can serve as substitutes for educational resources at home. As a result, these public education resources can reduce the gender disparity of educational resources in homes that favor boys over girls. With less gender disparity of home educational resources in richer countries, girls show greater reading achievement, thereby increasing their reading gap with boys (Chiu 2010).

### 3.5.4 Economic Inequality

Students in countries with greater inequality with respect to distribution of family income often experience diminishing marginal returns or homophily bias, both of which tend to lower overall reading achievement (Chiu and Khoo 2005). Consider a thirsty girl and two glasses of water. She greatly values the first glass of water and drinks it all. Her thirst quenched, she hardly values the second glass of water and does not finish it. This lower value of extra resources is *diminishing marginal*

*returns*. Hence, a poor student likely learns more from an extra book than a rich student would. In more equal countries (e.g. Norway), poorer students often have more resources and benefit more from them compared to richer students, resulting in higher achievement overall.

Greater equality might also increase overall student achievement through people's preference to interact with others who are similar to themselves (*homophily bias*; Chiu 2010). As a result, more students in relatively equal countries have similar family SES, cooperate more often and share resources more often, resulting in higher achievement overall. In countries with greater equality, students' extensive sharing also dilutes the links between family characteristics and student achievement. Likewise, these countries with greater equality often distribute resources across schools more equitably, which often reduces differences in their students' achievement.

As noted above, boys are privileged over girls in many countries, so universal standards and equal distribution of resources often benefit girls. As a result, girls' reading achievement is higher in countries with more economic equality than in other countries, which increases their reading advantage over boys (Chiu 2010).

### *3.5.5 Cultural Values*

The culture of a society can also affect the reading motivation and achievement of boys and girls differently. Specifically, masculine cultures with rigid gender roles often discourage behaviors beyond the societal traditions of the two genders (Hofstede 2003). In school, teachers' stereotyped views of appropriate behaviors for girls might influence girls' motivations, self-esteems, and capacities to exploit their education and career potentials (Robinson 1992). In masculine cultures, girls tend to have lower ambitions for traditionally masculine careers (or other careers outside societal expectations), which reduces both their extrinsic reading motivation and reading achievement compared to girls in more gender egalitarian cultures (*gender role de-motivation*; Chiu and Chow 2010).

As a result of girls' lower ambitions, boys face fewer female competitors for limited jobs and might not study as hard to succeed, thereby reducing the impact of boys' extrinsic motivation on reading achievement (consistent with *expectancy value theory*, Wigfield et al. 2004). Hence, both the degree of extrinsic motivation and its impact on reading achievement are lower for both girls and boys in cultures that are more masculine (Chiu and Chow 2010).

In short, a country's economy and culture can have differential gender effects. As rich countries offer more publicly-available educational resources (public schools, museums, etc.), these resources substitute for educational resources at home, reduce their gender disparity at home, and raise girls' reading advantage over boys. In countries with greater economic equality, students show higher overall reading achievement, and girls especially benefit from the parity in resources, which increases their reading gap with boys. Lastly, masculine cultures with rigid gender roles often discourage girls' ambitions for high status, masculine jobs, which

reduces their extrinsic reading motivation and reading achievement, compared to girls in other cultures. By reducing job competition for males, masculine cultures also reduce the impact of extrinsic motivation on boys' reading achievement.

## 3.6 Summary

As shown in many international studies, girls often outperform boys on reading tests and are more likely than boys to have basic reading skills. Compared to boys, girls have more positive reading attitudes, enjoy reading more, read more books, have better reading skills, and have higher reading self-concept and self-efficacy, all of which help account for the gender differences in reading achievement.

Privileged families provide their children with more financial, human, cultural or social capital. Family financial, human and social capital provides learning opportunities on which children can capitalize to learn more. Along with family cultural capital, children can use them to understand others' expectations and have better relationships with teachers and students, which can enhance their motivation and learning opportunities. In cultures that favor boys over girls, families tend to provide more tangible educational resources and learning opportunities to their sons than to their daughters. Compared to boys however, girls tend to interact with family members more, acquire better social skills and benefit from these intangible interactions more in the form of greater reading motivation and achievement.

Moreover, schoolmates can help a student learn directly (e.g., sharing information, evaluations) or indirectly (e.g., motivation, supportive reading norms), though schoolmate gender yields differential effects. In schools with a larger proportion of girls, both its male students and its female students tend to have greater reading enjoyment and greater reading achievement, compared to students in schools with proportionally fewer girls.

Richer countries can raise student learning directly (e.g., more books, teacher training) or indirectly (e.g., better nutrition standards, better health care). Moreover, the greater public availability of educational resources (e.g., public schools, museums) in richer countries substitutes for educational resources at home, reduces the gender disparity of home educational resources, and increases girls' reading advantage over boys.

Students in countries with greater economic equality show higher overall reading achievement. Moreover, equal distribution of resources often benefits girls, which raises their reading achievement and increases their reading advantage over boys.

Masculine cultures with rigid gender roles often discourage behaviors beyond the societal traditions of the two genders. Thus, girls in masculine cultures have lower ambitions for high-status, traditionally-masculine careers (or other careers outside societal expectations), which reduces their extrinsic reading motivation and reading achievement, compared to girls in more gender egalitarian cultures. By reducing job competition for males, masculine cultures reduce the impact of extrinsic motivation on reading achievement for both boys and girls.

## References


Baker, L., & Wigfield, A. (1999). Dimensions of children's motivation for reading and their relations to reading activity and reading achievement. *Reading Research Quarterly, 34*, 452–477. https://doi.org/10.1598/RRQ.34.4.4.

Baker, D. P., Goesling, B., & Letendre, G. K. (2002). Socioeconomic status, school quality, and national economic development: A cross-national analysis of the "Heyneman-Loxley effect" on mathematics and science achievement. *Comparative Education Review, 46*(3), 291–312.

Blackburn, M. V. (2003). Boys and literacies: What difference does gender make? *Reading Research Quarterly, 38*, 276–287.

Bronfenbrenner, U. (2005). *Making human beings human: Bioecological perspectives on human development*. Thousand Oaks: Sage.

Brooks-Gunn, J., Duncan, G. J., & Britto, P. R. (1999). Are socioeconomic gradients for children similar to those for adults? Achievement and health of children in the United States. In D. P. Keating & C. Hertzman (Eds.), *Developmental health and the wealth of nations* (pp. 94–124). New York: The Guilford Press.

Chiu, M. M. (2010). Inequality, family, school, and mathematics achievement. *Social Forces, 88*(4), 1645–1676.

Chiu, M. M. (2008a). Flowing toward correct contributions during groups' mathematics problem solving: A statistical discourse analysis. *Journal of the Learning Sciences, 17*(3), 415–463.

Chiu, M. M. (2008b). China's changing economy, families, cultural values, and student learning: Benefits, challenges, and strategies. In F. Columbus's (Ed.), *Education in China: 21st century issues and challenges* (pp. 141–156). Hauppauge: Nova Science Publishers.

Chiu, M. M. (2013a). Family structure and education. In J. Ainsworth & G. J. Golson's (Eds.), *Sociology of education* (pp. 271–275). Thousand Oaks: Sage.

Chiu, M. M. (2013b). Parental involvement. In J. Ainsworth & G. J. Golson's (Eds.), *Sociology of education* (pp. 570–572). Thousand Oaks: Sage.

Chiu, M. M. (2015). Family inequality, school inequalities and mathematics achievement in 65 countries: Microeconomic mechanisms of rent seeking and diminishing marginal returns. *Teachers College Record, 117*(1), 1–32.

Chiu, M. M., & Chow, B. W.-Y. (2010). Culture, motivation, and reading achievement. *Learning and Individual Differences, 20*, 579–592.

Chiu, M. M., & Chow, B. W.-Y. (2011). Classroom discipline across 41 countries: School, economic, and cultural differences. *Journal of Cross-Cultural Psychology, 42*(3), 516–533.

Chiu, M. M., & Chow, B. W.-Y. (2015a). International comparisons of student achievement. In S. Rosa's (Ed.), *Progress in Education* (Vol. 32, pp. 93–108). Hauppauge: Nova Science.

Chiu, M. M., & Chow, B. W.-Y. (2015b). Classmate characteristics and student achievement in 33 countries: Classmates' past achievement, family SES, educational resources and attitudes toward reading. *Journal of Educational Psychology, 107*(1), 152–169.

Chiu, M. M., & Joh, S. W. (2015). Cross-national comparisons in education-PISA. In J. D. Wright (Ed.), *International encyclopedia of social and behavioral sciences* (Vol. 5, 2nd ed., pp. 342–348). Oxford: Elsevier.

Chiu, M. M., & Khoo, L. (2003). Rudeness and status effects during group problem solving: Do they bias evaluations and reduce the likelihood of correct solutions? *Journal of Educational Psychology, 95*, 506–523.

Chiu, M. M., & Khoo, L. (2005). Effects of resources, inequality, and privilege bias on achievement. *American Educational Research Journal, 42*, 575–603.

Chiu, M. M., & Klassen, R. M. (2009). Calibration of reading self-concept and reading achievement among 15-year- olds: Cultural differences in 34 countries. *Learning and Individual Differences, 19*, 372–386.

Chiu, M. M., & McBride-Chang, C. (2006). Gender, context, and reading: A comparison of students in 43 countries. *Scientific Studies of Reading, 10*(4), 331–362.

Chiu, M. M., Chow, B. W.-Y., & McBride-Chang, C. (2007). Universals and specifics in learning strategies. *Learning and Individual Differences, 17*, 344–365.
Chiu, M. M., & McBride-Chang, C. (2010). Family and reading in 41 countries: Differences across cultures and students. *Scientific Studies of Reading, 14*, 514–543.
Chiu, M. M., McBride-Chang, C., & Lin, D. (2012). Ecological, psychological, and cognitive components of reading difficulties: Testing the component model of reading in fourth graders across 38 countries. *Journal of Learning Disabilities, 45*(5), 391–405.
Coleman, J. S. (1990). *Foundations of social theory*. Cambridge, MA: Harvard University Press.
D'Ailly, H. (2003). Children's autonomy and perceived control in learning. *Journal of Educational Psychology, 95*(1), 84–96.
Deci, E. L., & Ryan, R. M. (2002). Overview of self-determination theory. In E. L. Deci & R. M. Ryan (Eds.), *Handbook of self-determination research* (pp. 3–33). Rochester: University of Rochester Press.
Downey, D. B. (2001). Number of siblings and intellectual development. *American Psychologist, 56*(6/7), 497–504.
Halpern, D. F. (2000). *Sex differences in cognitive abilities* (3rd ed.). London: Erlbaum.
Heyneman, S. P., & Loxley, W. A. (1982). Influences on academic achievement across high and low income countries. *Sociology of Education, 55*(1), 13–21.
Ho, C. S.-H., Chan, D. W.-O., Lee, S.-H., Tsang, S.-M., & Luan, V. H. (2003). Cognitive profiling and preliminary subtyping in Chinese developmental dyslexia. *Cognition, 91*, 43–75.
Hofstede, G. (2003). *Culture's consequences: Comparing values, behaviors, institutions, and organizations across nations*. Thousand Oaks: Sage.
Johnson, R., & Johnson, P. (1999). Making cooperative learning work. *Theory into Practice, 38*(2), 67–73.
Lareau, A. (2001). *Unequal childhoods: Class, race and family life*. Berkeley: University of California.
Lyon, G. R., Shaywitz, S. E., & Shaywitz, B. A. (2003). A definition of dyslexia. *Annals of Dyslexia, 53*, 1–14.
Ma, X., & Willms, J. D. (2004). School disciplinary climate: Characteristics and effects on eight grade achievement. *Alberta Journal of Educational Research, 50*(2), 169–188.
McBride-Chang, C. (2004). *Children's literacy development*. London: Arnold/Oxford Press.
Murphey, T. (1994). Tests: Learning through negotiated interaction. *TESOL Journal Guidelines for Contributors, 4*(2), 12.
Muter, V. (2003). *Early reading development and dyslexia*. London: Whurr Publishers.
Ogbu, J. (2007). African American education: A cultural-ecological perspective. In H. P. McAdoo (Ed.), *Black families* (pp. 79–94). Thousand Oaks: Sage.
Pan, B. A., Perlmann, R. Y., & Snow, C. E. (2000). Food for thought. In L. Menn & N. B. Ratner (Eds.), *Methods for studying language production* (pp. 205–224). Mahwah: Lawrence Erlbaum.
Parcel, T. L., & Dufur, M. J. (2001). Capital at home and at school: Effects on student achievement. *Social forces, 79*(3), 881–911.
Pintrich, P. R., & Schunk, D. H. (2002). *Motivation in education*. Englewood Cliffs: Merrill.
Powell, B., & Steelman, L. C. (1993). The educational benefits of being spaced out. *American Sociological Review, 58*, 367–381.
Robinson, K. H. (1992). Classroom discipline: Power, resistance and gender. A look at teacher perspectives. *Gender & Education, 4*, 273–288.
Sandberg, J. F., & Hofferth, S. L. (2001). Changes in children's time with parents: United States, 1981–1997. *Demography, 38*, 423–436.
Sirin, S. R. (2005). Socioeconomic status and academic achievement: A meta-analytic review of research. *Review of Educational Research, 75*, 417–453.
Skibbe, L. E., Phillips, B. M., Day, S. L., Brophy-Herb, H. E., & Connor, C. M. (2012). Children's early literacy growth in relation to classmates' self-regulation. *Journal of Educational Psychology, 104*, 541–553.

Smith, M. W., & Wilhelm, J. D. (2002). *Reading don't fix no Chevy: Literacy in the lives of young men*. Portsmouth: Heinemann.

United Nations Children's Fund [UNICEF]. (2011). *The state of the world's children 2001*. Retrieved from http://www.unicef.org/sowc11/

Valentine, J. C., DuBois, D. L., & Cooper, H. (2004). The relation between self-beliefs and academic achievement: A meta-analytic review. *Educational Psychologist, 39*(2), 111–133.

Wagemaker, H., Taube, K., Munck, I., Kontogiannopoulou-Polydorides, G., & Martin, M. (1996). *Are girls better readers?* Amsterdam: IEA.

Wigfield, A., & Eccles, J. S. (2000). Expectancy-value theory of achievement motivation. *Contemporary Educational Psychology, 25*, 68–81.

Wigfield, A., Tonks, S., & Eccles, J. S. (2004). Expectancy value theory in cross-cultural perspective. In D. M. McInerney & S. van Etten (Eds.), *Big theories revisited* (pp. 165–198). Charlotte: IAP.

# Chapter 4
# The Influence of Instructional Practices on Reading Motivation in Finland


**Marja-Kristiina Lerkkanen**

**Abstract** Although the differences between individuals in language and literacy skills and motivation to read start before entering school, teachers and their instructional practices play an important role in the development of reading skills and the various aspects of motivation, especially children's interest in reading. Interest in reading has been reported to contribute to the reading activity and to the amount of reading which, in turn, promote students' reading performance. It has been assumed that children's previous success with learning the basics of reading has provided them with positive feedback about the learning situation, thereby strengthening their interest in reading. Teachers and their instruction provide an important environment for children's learning and motivation. Child-centered teaching practices that are sensitive to the development of children's autonomy, competence beliefs, and social interactions with peers support interest in reading. The high-quality classroom interactions described by emotionally supportive relationships in a well-organized classroom have been shown to be of particular importance in the development of children's reading skills and motivation, especially among children at risk of having reading difficulties. The present chapter attempts to describe the development of interest in reading and how teaching practices and the quality of teacher-child interactions observed in classrooms influence children's reading interest, particularly among boys and at-risk children in the Finnish language context. According to international comparative education studies of achievement, Finland has a high-quality educational system and high performance outcomes across the school years. The results reported here are based on a longitudinal First Steps study among 2000 children and their teachers from kindergarten to grade 4. Reading instruction is based on phonics, and a highly transparent Finnish orthography makes decoding relatively quick and easy for children to learn.

**Keywords** Motivation · Interest · Reading development · Instruction

M.-K. Lerkkanen (✉)
Department of Teacher Education, University of Jyväskylä, Jyväskylä, Finland
e-mail: marja-kristiina.lerkkanen@jyu.fi



P. Orellana García, P. Baldwin Lind (eds.), *Reading Achievement and Motivation in Boys and Girls*, Literacy Studies 15,
https://doi.org/10.1007/978-3-319-75948-7_4

The differences between individuals in the development of both their reading skills and their interest in reading start before entering school. It has been assumed that children's success in learning the basics of reading has provided them with positive feedback on the learning situation at home, in kindergarten, and at school, thereby strengthening their interest and engagement in reading. As a literacy environment, home refers to parental behaviors that seek to promote their children's language and pre-reading skills development, such as shared reading, library visits, and the teaching of reading (e.g., Morrison 2009). Other studies have demonstrated the effects of the classroom environment on reading skills (e.g., Curby et al. 2009; Lerkkanen et al. 2016). Teachers and their instructional practices provide an important environment for children's learning and motivation. Teachers who understand the differences between students' individual skill levels upon school entry often make an effort to develop learning activities that interest and engage their students to practice and enjoy reading. For example, educational contexts that promote children's autonomy to initiate tasks and complete them, without applying strict performance criteria, have been shown to strengthen the children's interest in reading. Conversely, a strict and more didactic approach, emphasizing correct answers and particular modes of learning, may lead to children's waning intrinsic motivation and interest in reading (Guay et al. 2001; Guthrie et al. 2000; Lerkkanen et al. 2012a). However, at school age, children's motivation in reading has been reported to contribute to students' reading activity and the amount of reading which, in turn, promote their reading performance (Stanovich 1986).

This chapter will summarize the findings of a large-scale First Steps study on how Finnish teachers' instructional practices are associated with children's interest in reading. In particular, it will describe the extent to which teaching practices and the quality of teacher-child interactions observed in classrooms influence children's motivation in reading, particularly among boys and at-risk children in the early school years. International comparative education studies of achievement, such as the Progress in International Reading Literacy Study (PIRLS; Mullis et al. 2012) for the 4th grade and the Programme for International Student Assessment (PISA; OECD 2016) among 15 year olds, have shown that Finland has a high-quality educational system and high performance outcomes across the school years, especially in reading. Compared to many other countries, Finland has a relatively equitable socio-economic environment for families, with children starting formal education at age 7, which is rather late compared to other countries, and class sizes are typically small (on average, 18.5 students in primary school classrooms). Moreover, reading instruction is based on grapheme-phoneme correspondence (phonics), and a highly transparent Finnish orthography makes reading acquisition relatively easy and quick for children (Soodla et al. 2015).

## 4.1 Interest in Reading

It seems that motivation combined with effort is the key to success at school. Motivation directs students' behaviors and efforts in learning situations (Wigfield et al. 2006), which then have a positive effect on achievement. Motivation to act can come from within an individual (intrinsic motivation), such as interesting, challenging, and joyful activities that provide internal satisfaction. Alternatively, it can come from something external (extrinsic motivation), such as a reward system in a classroom, which is not related to the learning of the skill itself (Deci and Ryan 1985). While intrinsic motivation involves student's thoughts, ability beliefs, and emotions in learning situations, extrinsic motivation often works only as long as the external reward is available, although appropriate extrinsic motivation can also be beneficial and support the students' engagement in learning situations.

According to the expectancy-value theory of achievement motivation (Eccles 1983), beliefs and expectancies related to academic situations and subjective task values are central to academic outcomes (Wigfield and Eccles 2000). Expectancies and ability beliefs refer to the students' beliefs concerning their competence in upcoming tasks. The value aspect of achievement motivation includes three components: attainment value, utility value, and intrinsic or interest value. Young children cannot clearly distinguish between the different dimensions of task values, except interest value, which refers to how much a child likes and enjoys performing tasks related to a particular topic. Besides interest, many other theories and conceptualizations of motivation have also been introduced in the literature, but interest has important developmental ramifications. In the learning context, interest is one of the reasons students interact with learning domains, perform certain tasks, or exhibit a particular learning behavior (Hidi and Renninger 2006). In the present chapter, the term *interest* is used to refer to students' enjoyment of doing reading-related tasks.

Previous research has shown that students' interest in reading is typically high at the beginning of school, but often decreases during the elementary school years (e.g., Jacobs et al. 2002). This decline concerns students with both higher and lower initial motivation (e.g., Fredricks and Eccles 2002; Jacobs et al. 2002), but it is more difficult for students with poor reading skills in primary school (Lerkkanen et al. 2012b). Different explanations have been given for this decline. One is the lack of support to encourage interest in school (Hidi and Renninger 2006). More precisely, the decline is related to a changing school environment where practices that are too teacher-directed are applied, so that children get less individual attention from year to year (Fredricks and Eccles 2002). In addition to these reasons, the meaning of interest also changes during the middle school years in that greater emphasis is placed on cognitive instead of affective dimensions of interest (Frenzel et al. 2012).

Although reading skills development is affected by different cognitive antecedents, such as letter knowledge, phonological awareness, and naming speed (Lonigan et al. 2000; Torppa et al. 2013), evidence also suggests that a high interest in reading promotes later reading performance and improvement in reading skills (e.g., Ecalle et al. 2006; Wigfield 1997). Interest in reading has also been reported to contribute

to the reading activity and the amount of reading (Wigfield and Guthrie 1997), which, in turn, promotes students' reading performance at school age (Cipielewski and Stanovich 1992). Still, it is difficult to know which comes first: interest or skills. It may be that literacy-related motivation only starts to play an important role later when the focus moves towards more advanced reading performance, such as reading fluency and text comprehension skills in primary school (Viljaranta et al. 2009). Although interest might not always have a direct effect on reading outcomes, its effect may be mediated through the learning strategy used.

Interest strongly overlaps with a self-concept of ability from the very beginning of one's school career. A self-concept of ability indicates the student's evaluation of one's competence in the subject matter or ability to perform certain tasks (Eccles 1983). Generally, students who have a positive self-concept of their ability and who are interested in academic tasks perform better and are more adaptively engaged in tasks than students with negative self-perceptions and a low level of interest (e.g., Eccles 1983; Wigfield 1997). Longitudinal studies have shown that young students' self-concept of ability is related to intrinsic motivation and that a decrease in self-concept goes hand-in-hand with a decrease in interest (Spinath and Spinath 2005). However, Viljaranta et al.'s (2017) person-oriented analyses broaden our understanding of the various associations between the self-concept of ability, interest, and reading skills by showing that the patterns of the values of these variables differ from child to child. For example, some children can have high skills, a positive self-concept of ability, but low interest in reading, while others can have poor skills, a negative self-concept of ability, but a high interest in reading. These findings suggest that groups of students who show a similar skill level in reading can be different, particularly regarding their interest in reading. However, most children at risk for a reading disability (RD) were overrepresented in the groups typified by a low level of both skills and a self-concept of ability.

## 4.2 Gender Differences

Gender is one of many factors related to a child's individual features, home environment, and previous experiences, which might affect interest, self-concept of ability, and academic performance (Eccles 1983). Previous research has shown that girls typically have both higher levels of interest and a stronger self-concept of ability when it comes to reading (Marsh and Yeung 1998). This is evident as early as kindergarten, whereby girls tend to have a higher reading-related interest than boys (Lerkkanen et al. 2012a; Viljaranta et al. 2009). Girls also typically outperform boys in most literacy tasks at school (Halpern and LaMay 2000; Logan and Johnston 2009), which might be due to boys' lower motivation to read (e.g., Fredricks and Eccles 2002). For example, Viljaranta et al.'s (2017) recent person-oriented analyses demonstrated that there were substantially more boys than girls in the most negative group, which exhibited low reading skills, negative self-concepts of ability, and low interest in reading through primary school. However, results also showed that boys

were overrepresented in the average group for these factors, which could suggest that the boys' situation may not be as bad as it first sounds from the previous results.

Studies on motivation that have compared genders have reached unequivocal conclusions that the differences might not be so large. For example, the review by Spinath et al. (2014) indicated that the relationship between motivation and achievement does not differ remarkably between boys and girls, although there is a difference favoring girls.

Overall, although the differences in reading interest between boys and girls are evident, they should not be a major concern to teachers when planning instruction. There seems to be more variance within groups of boys and within groups of girls, than there are differences between genders. Similarly, as there are girls and boys who are motivated to read (Viljaranta et al. 2017), there will be girls and boys who are unmotivated in the classroom. It is most important to meet the individual needs of each student to support his or her interest in reading.

## 4.3 Effect of Instructional Practices

The characteristics of teacher and teaching practices play a role in the development of various aspects of motivation. For example, compared to children in more teacher-led didactic classrooms, children in more child-centered classrooms have a higher interest in reading (e.g., Lerkkanen et al. 2012a). Furthermore, according to the self-determination theory (Deci and Ryan 1985), children are most motivated to learn when teachers support their need to feel competent and autonomous as well as related to others (e.g., Guthrie et al. 2000).

The notion of child-centered practices is based on the work of both Piaget and Vygotsky, who subscribed strongly to the recognition of children as active knowledge constructors. In child-centered classrooms, teachers assist and facilitate children's learning by providing them with both guidance and opportunities to direct their own exploration of objects and academic topics, making teaching akin to a partnership between the teacher and the children. Child-centered classrooms are characterized by a shared responsibility for both management and learning, active teacher support for the children's learning efforts and social skills, and teaching practices that are sensitive to children's needs and interests (Stipek and Byler 2004).

Conversely, the notion of teacher-directed practices is based on the premise that basic academic skills need to be mastered before more advanced learning can occur (Stipek 2004). In this didactically oriented style of teaching, teachers emphasize the provision of information and employ structured, drill-and-practice group lessons that are fast-paced, teach discrete skills in small steps, and include appraisal when predetermined goals are reached. High scores in the teacher-directed dimension are typical for teacher-controlled classrooms, where the acquisition of "basic" academic skills through oral recitation and worksheets is given considerable weight, while children's interests and social skills development receive little attention, and peer interaction is not supported (Stipek and Byler 2004). Teacher-directed practices

are based on the teacher's determination to proceed with predetermined instructional content, rather than adhering to children's needs and interests, which are the priority in the more child-centered classrooms.

Although child-centered practices have often been regarded as being the "best practices" in early education, a wide consensus on the most beneficial mix of instruction for promoting children's development and motivation has not yet been achieved. However, a recent study by Tang et al. (2017) showed that in Grade 1, children who were in classrooms characterized by the child-centered style showed the highest performance in reading, whereas in Grade 3, children whose teachers followed either the child-centered style or a mixed teaching style of child-centered and teacher-directed practices performed better in reading fluency and reading comprehension than children in other classrooms. Furthermore, a study by Lerkkanen et al. (2012a) showed that children were more interested in reading in more child-centered kindergarten classrooms; in addition, their reading skills developed faster in more child-centered classrooms in Grade 1 (Lerkkanen et al. 2016).

The quality of classroom interactions has been linked with children's language and pre-literacy skills in several studies as well (e.g., Curby et al. 2009; Pakarinen et al. 2010). For example, Hamre et al. (2013) showed that children who had responsive teachers made the most gains in early literacy and language skills. Previous studies have also shown that high-quality teacher-child interactions in the classroom contribute to children's motivation (Pakarinen et al. 2010). Moreover, it is of particular importance for children at risk for RD (Hamre and Pianta 2005; Lerkkanen et al. 2016) and boys' motivation toward reading (Lerkkanen et al. 2012a; Stipek and Byler 2004).

## 4.4 Introduction to the First Steps Study

The studies reported here are part of the longitudinal First Steps study (Lerkkanen et al. 2006–2016), which examines student learning and motivation in the interpersonal contexts of kindergarten, comprehensive school, and the home environment in Finland. The population-based sample of children (born in 2000) from four municipalities involved approximately 2000 children together with their parents and teachers. The children's family backgrounds were representative of the general Finnish population. The First Steps study comprises a rich database of assessments of students' academic performance, motivation, social skills, and wellbeing on a yearly basis. At each measurement point, parents and teachers filled in questionnaires concerning their parenting/teaching styles, stress, pedagogical goals and practices, and background information. Teachers also provided ratings on a subsample of students concerning their motivation, behavior, the teacher-child relationship, and partnership with parents. This subsample contained both students at risk for RD (n = 277) and students not at risk (n = 321). Children's risk for RD was determined at the end of the kindergarten year on the basis of four criteria: children's phonological skills,

letter knowledge, rapid automatized naming, and parental report of their own learning disabilities (Lerkkanen et al. 2011).

A subsample of the teachers (49 at kindergarten, 32 at primary school) also participated in classroom observations on a voluntary basis. Two days' observations were coded using the Early Childhood Classroom Observation Measure (ECCOM; Stipek and Byler 2004), which assesses the nature and quality of the instructional practices, and the Classroom Assessment Scoring System (CLASS; Pianta et al. 2008) concerning the quality of teacher-child interactions.

The ECCOM instrument (Stipek and Byler 2004) focuses on child-centered and teacher-directed teaching practices. It measures key characteristics of teaching practices that have been suggested as important in promoting students' interest in academic situations. Such dimensions include autonomy-granting, encouragement, positive affection, and the teacher-child relationship, all of which are typical of child-centered practices. In contrast, in a teacher-directed learning environment, the emphasis is typically placed on the quality of performance and academic content, as well as on a didactic approach to teaching.

In turn, CLASS (Pianta et al. 2008) focuses on the patterns of interactions between teachers and students as key drivers for student learning and motivation. It has operationalized classroom interactions in several specific dimensions involving emotional, organizational, and instructional features of the classroom. The emotional support domain focuses on the positive tone and respectful interactions in the classroom; i.e. teachers' abilities to support social and emotional functioning in the classroom. The classroom organization domain focuses on classroom processes related to the organization and management of the students' behavior, time, and attention in the classroom. Instructional support focuses on how teachers establish conversations and give feedback in order to promote children's cognitive and language development.

The sample of the present chapter is Finnish children in the early years of their school careers: kindergarten (6 year olds) and from Grades 1 to 4 (7–10 year olds). The goal of Finnish kindergarten education is to incite children's interest in reading and to support emerging literacy skills, instead of a systematic instruction of decoding. In Grade 1, reading and spelling are taught simultaneously, with an emphasis on the systematic use of phonics and grapheme-phoneme connections, whereas later the focus is more on reading fluency and comprehension (Lerkkanen 2007). Largely due to the consistent nature of the highly transparent orthography of Finnish language, reading accuracy hits a ceiling after a few months of formal reading instruction in Grade 1 (Lerkkanen et al. 2004), and basically all children can read accurately by the end of Grade 1 (Soodla et al. 2015). However, even a highly consistent orthography does not guarantee efficient reading acquisition for all children. Reading difficulties are typically identified for approximately 5% to 20% of children in either reading fluency or comprehension, depending on the criteria.

## 4.5 The Results from the First Steps Study

### *4.5.1 The Association Between Reading and Motivation*

When investigating the changes in reading interest from kindergarten to Grade 4, we recognized a trend of declining interest (Fig. 4.1). Although the decline is slight, the result is in line with previous studies showing that students' reading interest is highest at the beginning of school, but begins to diminish during the primary grades (Gottfried et al. 2001; Jacobs et al. 2002).

As a next step, we analyzed the differences between girls and boys in their interest towards the Finnish language and literacy from Grades 1 to 4. Results showed clear gender differences, which were also statistically significant at every time point, favoring girls who were more interested in literacy learning than boys. The differences in a subsample of the data between poor readers (the lowest, 15.7%, in reading fluency in Grade 2) and other readers were also evident, but only after Grade 1 (Table 4.1). Both of these results are in line with previous studies concerning differences in gender and between poor readers and other children.

The study by Lerkkanen et al. (2010) examined the literacy and motivational development of three groups of children from kindergarten to Grade 2: a group of at risk children for RD (n = 162), a group of precocious readers who had learned to decode at kindergarten (n = 460), and a group of children other in the follow-up

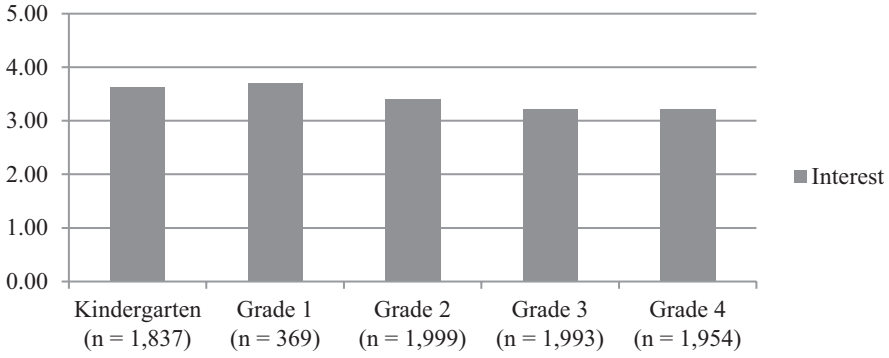


**Fig. 4.1** Reading interest from Kindergarten to Grade 4

**Table 4.1** The differences between poor readers and other readers in their interest in Finnish language and literacy as a subject from Grades 1 to 4

| | Poor readers | | Other readers | | |
|---|---|---|---|---|---|
| Interest in Literacy | n | M (SD) | n | M (SD) | t (df) |
| Grade 1 | 92 | 3.5 (1.4) | 493 | 3.7 (1.2) | −1.4 (118.3) |
| Grade 2 | 92 | 2.9 (1.5) | 474 | 3.3 (1.2) | −2.3 (115)** |
| Grade 3 | 88 | 2.8 (1.3) | 470 | 3.2 (1.2) | −2.9(556)*** |
| Grade 4 | 83 | 2.8 (1.3) | 451 | 3.1 (1.1) | −2.1 (103)* |

**Table 4.2** The differences between at-risk RD group, precursor readers, and other children in reading skills and motivation (Lerkkanen et al. 2010)

| Reading Skills and Motivation | At risk for RD (n = 121–162) | | Other children (n = 1087–1205) | | Precursor readers (n = 418–460) | | |
|---|---|---|---|---|---|---|---|
| | M | SD | M | SD | M | SD | F[a] |
| Reading Fluency[1] | | | | | | | |
| Grade 1, spring | 10.4 | 5.8 | 17.0 | 7.5 | 25.1 | 9.1 | 244.0* |
| Grade 2, spring | 18.6 | 6.6 | 23.5 | 6.8 | 28.9 | 7.8 | 137.0*** |
| Reading Comprehension[2] | | | | | | | |
| Grade 1, spring | 2.9 | 2.6 | 5.0 | 2.9 | 8.0 | 2.6 | 243.8*** |
| Grade 2, spring | 6.2 | 2.9 | 8.2 | 2.6 | 10.2 | 1.8 | 164.5*** |
| Interest[3] | | | | | | | |
| Kindergarten, spring | 3.2 | 1.6 | 3.6 | 1.4 | 3.8 | 1.3 | 10.7*** |
| Grade 2, spring | 3.0 | 1.4 | 3.4 | 1.2 | 3.6 | 1.1 | 9.6*** |
| Self-concept of Ability[4] | | | | | | | |
| Kindergarten, spring | 6.4 | 3.0 | 7.6 | 2.3 | 8.2 | 1.9 | 36.9*** |

$***p < .001$

*Notes*: [a]All groups differed from each other statistically significantly at least level .01; [1]ALLU reading test (Lindeman 1998, 2 min, max 80 p.); [2]ALLU reading test (max 12 p.); [3]Interest (*How much you like reading*, 5-point scale; [4]Self-Concept of Ability (Nicholls 1978, 10-point scale)

(n = 1205). In addition, within groups, gender differences were analyzed, and the three groups were compared in terms of children's self-rated motivation, parental achievement expectations and ability beliefs concerning their child, and the amount of parental teaching of reading at home. Results showed that groups differed in their pre-reading skills, reading achievement, and their motivation across all time points (Table 4.2). Also, some group differences in literacy skills and motivation favoring girls were found. Differences were also found between the groups, indicating that parents' expectations and beliefs were most positive among the group of precocious readers, and lowest among the group of at risk children for RD, with the latter group of children also receiving the least amount of parental teaching of reading at home.

### *4.5.2 The Role of Child-Centered Teaching in Motivation*

The study by Lerkkanen et al. 2012a, bexamined the extent to which teaching practices observed in kindergarten classrooms contributed to children's subsequent interest in reading. Results showed that teaching practices make a difference; in kindergarten classrooms where teachers predominantly applied child-centered teaching practices children showed more interest in reading than in classrooms characterized by predominantly teacher-directed teaching practices. This result suggests that child-centered practices promote the positive development of children's interest in reading.

Also, Stipek et al. (1995) found that children were more motivated in child-centered programs compared to children in more teacher-directed classrooms. When teachers gave children freedom to choose tasks and complete them without the pressure of getting the right answer, children selected more challenging tasks, were less dependent on the teacher, and showed more pride in their performance. The results by Lerkkanen et al. (2012a) and Stipek et al. (1995) are in accordance with motivation theories, which emphasize the importance of encouraging individual choices and creating opportunities to feel competent (Deci and Ryan 1985). Children seem to want to read more often when they are able to choose what to read, have the opportunity to interact with others, can discuss what they read, and feel successful about reading (Gambrell et al. 1993).

In child-centered classrooms, teachers support and facilitate children's learning by providing them with both guidance and opportunities to direct their own exploration of academic topics. Therefore, child-centered practices are characterized by a shared responsibility for learning between the teacher and students, as well as teachers' active and sensitive scaffolding for children's learning. It has also been recently suggested (Kikas et al. 2014; Tang et al. 2017) that it is essential to strike a balance between constructivist, child-centered practices and didactic, teacher-directed practices to positively affect both children's academic learning and motivation. In such balanced practices, teachers simultaneously use active constructive instruction and scaffolding of children's basic skills, according to each child's individual needs, without engaging them too much in repetitive basic skill tasks.

### *4.5.3 The Role of Teacher-Child Interactions in Motivation*

The study by Pakarinen et al. (2010) investigated the role of the quality of teacher-student interactions and teacher stress in children's motivation and phonological skills in kindergarten classrooms. The results of multilevel modeling indicated that the higher the quality of classroom organization, as observed by CLASS, the higher the children's motivation in that particular classroom. The quality of the teacher's emotional and instructional support also correlated with the children's motivation, and in turn, the children's motivation correlated with phonological skills. Results also showed that teacher stress was associated with children's motivation: the more stress a teacher reported, the lower the children's motivation. Teacher stress also had an indirect effect on phonological skills via children's motivation: high teacher stress was related to children's low motivation, which further predicted their low level of phonological skills.

These results suggest that teachers setting clear rules and providing inherently interesting tasks in the classroom are associated with children's motivation and engagement in learning activities as early as kindergarten. Our results also suggest that children's motivation is an important mediator of the impact of teacher-related variables on children's pre-reading skills. This result is in line with Guay et al.

(2001), indicating that teachers' provision of both autonomy support and an optimal structure predict children's motivation.

The study by Pakarinen et al. (2010) also indicated that in addition to teachers' instructional practices, their wellbeing is important in promoting children's motivation. Teachers who exhibit a greater amount of enthusiasm are effective in promoting students' interest, excitement, and curiosity (Patrick et al. 2000), while emotional exhaustion may lead to avoiding interactions with students and lowered sensitivity. Therefore, the teachers' wellbeing may affect children's academic skills by promoting children's enthusiasm and engagement in learning.

## 4.6 Conclusion

This chapter has presented some concepts of motivation regarding reading skills development along with classroom practices, which facilitate children's interest towards reading. It is obvious that teaching practices that are sensitive to the development of children's autonomy, self-efficacy, and social interactions with peers can support their interest in reading (Deci and Ryan 2001). Therefore, teachers first need to support children's sense of autonomy in their reading goals and behavior. One of the most effective ways to support students to sustain their interest in a task or activity is to raise their curiosity by giving them choices and to support their autonomy to make choices by themselves. When they have some degree of choice, such as selecting the book or text they would like to read, or in which order they will do the tasks and with whom, students will be more likely to experience sustained interest in reading. Students' sense of autonomy in their goals and behavior will develop in classrooms where teachers emphasize child-centered practices that support each child's intrinsic motivation, and not by controlling learning by external rewards only.

Second, teachers need to support children's competence beliefs with tasks and classroom work. The teacher's positive verbal reinforcement when it is deserved toward a child's effort, rather than toward his or her intelligence, may increase intrinsic motivation. The message from the teacher is that mistakes and misunderstandings are also learning opportunities; instead of showing the child that he or she is incompetent. For students with reading difficulties, selecting a single task or focus area for improvement helps them to successfully proceed, rather than being overwhelmed, which could be detrimental to their self-efficacy and competence beliefs.

Finally, teachers need to support children's connection with others in the classroom, where learning is influenced by interactions with the teacher and peers. The social relationships and climate of the classroom affect motivation. Students need to be given opportunities to work and talk with their classmates, but they also need to feel competent among their peers. High-quality classroom interactions are emotionally supportive, caring, and respectful (Hamre and Pianta 2007). This is possible in

well-organized classrooms with management of students' behavior and attention, supportive instructional activities, and sustained shared thinking.

Children come to school to learn new skills, engage in interesting activities, and work with other children. Although teachers need to develop activities with the students' interests in mind, they also need to think about how to raise the students' curiosity about new things of which they are not yet aware, and how to keep their attention on the tasks to practice, because only an avid reader will develop as a good reader.

## References

Cipielewski, J., & Stanovich, K. E. (1992). Predicting growth in reading ability from children's exposure to print. *Journal of Experimental Child Psychology, 54*, 74–89.

Curby, T. W., Rimm-Kaufman, S. E., & Ponitz, C. C. (2009). Teacher–child interactions and children's achievement trajectories across kindergarten and first grade. *Journal of Educational Psychology, 101*, 912–925.

Deci, E. L., & Ryan, R. M. (1985). *Intrinsic motivation and self-determination in human behaviour*. New York: Plenum.

Deci, E. L., & Ryan, R. M. (2001). The "what" and "why" of goal pursuits: Human needs and the self-determination of behavior. *Psychology Inquiry, 11*, 227–268.

Ecalle, J., Magnan, A., & Gibert, F. (2006). Class size effects on literacy skills and literacy interest in first grade: A large-scale investigation. *Journal of School Psychology, 44*, 191–209.

Eccles, J. (1983). Expectancies, values, and academic behaviors. In J. T. Spence (Ed.), *Achievement and achievement motives: Psychological and sociological approaches* (pp. 75–146). San Francisco: W. H. Freeman and Company.

Fredricks, J. A., & Eccles, J. S. (2002). Children's competence and value beliefs from childhood through adolescence: Growth trajectories in two male-sex-typed domains. *Developmental Psychology, 38*, 519–533.

Frenzel, A. C., Pekrun, R., Dicke, A.-L., & Goetz, T. (2012). Beyond quantitative decline: Conceptual shifts in adolescents' development of interest in mathematics. *Developmental Psychology, 48*, 1069–1082.

Gambrell, L. B., Palmer, B. M., & Coding, R. M. (1993). *Motivation to read*. Washington, DC: Office of Educational Research and Improvement.

Gottfried, A. E., Fleming, J. S., & Gottfried, A. W. (2001). Continuity of academic intrinsic motivation from childhood through late adolescence. A longitudinal study. *Journal of Educational Psychology, 93*, 3–13.

Guay, F., Boggiano, A. K., & Vallerand, R. J. (2001). Autonomy support, intrinsic motivation, and perceived competence. Conceptual and empirical linkages. *Personality and Social Psychology Bulletin, 27*, 643–650.

Guthrie, J. T., Wigfield, A., & von Secker, C. (2000). Effects of integrated instruction on motivation and strategy use in reading. *Journal of Educational Psychology, 92*, 331–341.

Halpern, D. F., & LaMay, M. L. (2000). The smarter sex: A critical review of sex differences in intelligence. *Educational Psychology Review, 12*, 229–246.

Hamre, B. K., & Pianta, R. C. (2005). Can instructional and emotional support in the first grade classroom make a difference for children at risk of school failure? *Child Development, 76*, 949–967.

Hamre, B. K., & Pianta, R. C. (2007). Learning opportunities in preschool and early elementary classrooms. In R. C. Pianta, M. J. Cox, & K. L. Snow (Eds.), *School readiness and the transition to kindergarten in the era of accontability* (pp. 49–83). Baltimore: Brookes Publishing.

Hamre, B. K., Pianta, R. C., Downer, J. T., Decoster, J., Jones, S., Brown, J., et al. (2013). Teaching through interactions: Testing a developmental framework of effective teaching in over 4000 classrooms. *Elementary School Journal, 113*, 461–487.

Hidi, S., & Renninger, K. A. (2006). The four-phase model of interest development. *Educational Psychologist, 41*, 111–127.

Jacobs, J. E., Lanza, S., Osgood, D. W., Eccles, J. S., & Wigfield, A. (2002). Changes in children's self-competence and values: Gender and domain differences across grades one through twelve. *Child Development, 73*, 509–527.

Kikas, E., Peets, K., & Hodges, E. V. E. (2014). Collective student characteristics alter the effects of teaching practices on academic outcomes. *Journal of Applied Developmental Psychology, 35*, 273–283.

Lerkkanen, M.-K. (2007). The beginning phases of reading literacy instruction in Finland. In P. Linnakylä & I. Arffman (Eds.), *Finnish reading literacy. When quality and equity meet* (pp. 155–174). Jyväskylä: University of Jyväskylä, Institute for Educational Research.

Lerkkanen, M.-K., Rasku-Puttonen, H., Aunola, K., & Nurmi, J.-E. (2004). Predicting reading performance during the first and the second year of primary school. *British Educational Research Journal, 30*, 67–92.

Lerkkanen, M.-K., Niemi, P., Poikkeus, A.-M., Poskiparta, E., Siekkinen, M., & Nurmi, J.-E. (2006–2016). *The first step study*. Jyväskylä: University of Jyväskylä.

Lerkkanen, M.-K., Poikkeus, A.-M., Ahonen, T., Siekkinen, M., Niemi, P., & Nurmi, J.-E. (2010). Luku- ja kirjoitustaidon sekä motivaation kehitys esi- ja alkuopetusvuosina. [The development of literacy skills and motivation during kindergarten and early primary grades]. *Kasvatus [Education], 41*, 116–128.

Lerkkanen, M.-K., Ahonen, T., & Poikkeus, A.-M. (2011). The development of reading skills and motivation and identification of risk at school entry. In M. Veisson, E. Hujala, P. K. Smith, M. Waniganayake, & E. Kikas (Eds.), *Global perspectives in early childhood education: Diversity, challenges and possibilities. Baltische Studien zur Erziehungs- und Sozialwissenschaft* (pp. 237–258). Frankfurt am Main: Peter Lang.

Lerkkanen, M.-K., Kiuru, N., Pakarinen, E., Viljaranta, J., Poikkeus, A.-M., Rasku-Puttonen, H., Siekkinen, M., & Nurmi, J.-E. (2012a). The role of teaching practices in the development of children's interest in reading and mathematics in kindergarten. *Contemporary Educational Psychology, 37*, 266–279.

Lerkkanen, M.-K., Poikkeus, A.-M., & Kiuru, N. (2012b). Opettajan tuen yhteys riskilasten lukutaidon kehitykseen [The role of teacher support on at-risk children's reading development]. In P. Atjonen (Ed.), *Oppiminen ajassa – kasvatus tulevaisuuteen [Learning today – Education for tomorrow]*, *Studies in Education* (Vol. 61, pp. 23–35). Helsinki: Finnish Education Research Association.

Lerkkanen, M.-K., Kiuru, N., Pakarinen, E., Poikkeus, A.-M., Rasku-Puttonen, H., Siekkinen, M., & Nurmi, J.-E. (2016). Child-centered versus teacher-directed teaching practices: associations with the development of academic skills in the first grade at school. *Early Childhood Research Quarterly, 36*, 145–156.

Lindeman, J. (1998). *ALLU – Ala-asteen lukutesti [Reading test for primary school]*. Turku: University of Turku.

Logan, S., & Johnston, R. (2009). Gender differences in reading ability and attitudes: Examining where those differences lie. *Journal of Research in Reading, 32*, 199–214.

Lonigan, C. J., Burgess, S. R., & Anthony, J. L. (2000). Development of emergent literacy and early reading skills in preschool children: Evidence from a latent-variable longitudinal study. *Developmental Psychology, 36*, 596–613.

Marsh, H. W., & Yeung, A. S. (1998). Longitudinal structural equation models of academic self-concept and achievement: Gender differences in the development of math and English constructs. *American Education Research Journal, 35*, 705–738.

Morrison, F. J. (2009). Parenting and academic development. *Merrill-Palmer Quarterly, 55*, 361–372.

Mullis, I. V. S., Martin, M. O., Foy, P., & Drucker, K. T. (2012). *The PIRLS 2011 international results in reading*. Chestnut Hill: TIMSS & PIRLS International Study Center, Boston College, IEA Publishing.

Nicholls, J. G. (1978). The development of the concepts of effort and ability, perception of academic attainment, and the understanding that difficult tasks require more ability. *Child Development, 49*, 800–814.

OECD. (2016). *PISA 2015 results (Volume I): Excellence and equity in education*. Paris: PISA, OECD Publishing.

Pakarinen, E., Kiuru, N., Lerkkanen, M.-K., Poikkeus, A.-M., Siekkinen, M., & Nurmi, J.-E. (2010). Classroom organization and teacher stress predict learning motivation in kindergarten children. *European Journal of Psychology of Education, 25*, 281–300.

Patrick, B. C., Hisley, J., Kempler, T., & College, G. (2000). 'What's everybody so excited about?' The effects of teacher enthusiasm on student intrinsic motivation and vitality. *Journal of Experimental Education, 68*, 217–236.

Pianta, R. C., La Paro, K. M., & Hamre, B. K. (2008). *The classroom assessment scoring system. manual, Pre-K*. Baltimore: Brookes.

Soodla, P., Lerkkanen, M.-K., Niemi, P., Kikas, E., Silinskas, G., & Nurmi, J.-E. (2015). Does early reading instruction promote the rate of acquisition? A comparison of two transparent orthographies. *Learning and Instruction, 38*, 14–23.

Spinath, B., & Spinath, F. M. (2005). Longitudinal analysis of the link between learning motivation and competence beliefs among elementary school children. *Learning and Instruction, 15*, 87–102.

Spinath, B., Eckert, C., & Steinmayr, R. (2014). Gender differences in school success: What are the roles of students' intelligence, personality and motivation? *Educational Research, 56*, 230–243.

Stanovich, K. E. (1986). Matthew effects in reading: Some consequences of individual differences in the acquisition of literacy. *Reading Research Quarterly, 21*, 360–407.

Stipek, D. (2004). Teaching practices in kindergarten and first grade: Different strokes for different folks. *Early Childhood Research Quarterly, 19*, 548–568.

Stipek, D., & Byler, P. (2004). The early childhood classroom observation measure. *Early Childhood Research Quarterly, 19*, 375–397.

Stipek, D., Feiler, R., Daniels, D., & Milburn, S. (1995). Effects of different instructional approaches on young children's achievement and motivation. *Child Development, 66*, 209–223.

Tang, X., Kikas, E., Pakarinen, E., Lerkkanen, M.-K., Muotka, J., & Nurmi, J.-E. (2017). Profiles of teaching practices and reading skills at the first and third grade in Finland and Estonia. *Teaching and Teacher Education, 64*, 150–161.

Torppa, M., Parrila, R., Niemi, P., Poikkeus, A.-M., Lerkkanen, M.-K., & Nurmi, J.-E. (2013). The double deficit hypothesis in the transparent Finnish orthography: A longitudinal study from Kindergarten to Grade 2. *Reading and Writing: An Interdisciplinary Journal, 26*, 1353–1380.

Viljaranta, J., Lerkkanen, M.-K., Poikkeus, A.-M., Aunola, K., & Nurmi, J.-E. (2009). Cross-lagged associations between task-motivation and skill development in kindergarten. *Learning and Instruction, 19*, 335–344.

Viljaranta, J., Kiuru, N., Lerkkanen, M.-K., Silinskas, G., Poikkeus, A.-M., & Nurmi, J.-E. (2017). Patterns of word reading skill, interest and selfconcept of ability. *Educational Psychology, 37*, 712–732.

Wigfield, A. (1997). Reading motivation. A domain-specific approach to motivation. *Contemporary Educational Psychology, 25*, 68–81.

Wigfield, A., & Eccles, J. S. (2000). Expectancy-value theory of achievement motivation. *Contemporary Educational Psychology, 25*, 68–81.

Wigfield, A., & Guthrie, J. T. (1997). Relations of children's motivation for reading to the amount and breadth of their reading. *Journal of Educational Psychology, 89*, 420–432.

Wigfield, A., Eccles, J. S., Schiefele, U., Roeser, R. W., & Davis-Kean, P. (2006). Development of achievement motivation. In W. Damon & R. M. Lerner (Series Eds.) & N. Eisenberg (Vol. Ed.), *Handbook of child psychology: Vol. 3. Social, emotional, and personality development* (6th ed., pp. 933–1002). New York: Wiley

# Chapter 5
# To What Extent Is Reading Motivation a Significant Predictor of Reading Achievement when Controlling for Language and Cognitive Ability? A Systematic Review


**Pelusa Orellana García**

**Abstract** Converging evidence has demonstrated that there are cognitive and emotional factors that impact reading ability. While the relationship between reading motivation and reading achievement has been widely documented in the literature, the question of how much variation can be accounted for by reading motivation, when cognitive and linguistic aspects are controlled for, can be more complex and has been examined to a lesser degree. Furthermore, there are fewer studies examining how reading motivation predicts reading achievement among early elementary students. The wide spectrum of factors associated with motivation, and the variety of methods used to assess it make it difficult to compare findings about its impact on reading ability. Studies show that the amount of variation which is attributed to motivation is contingent on several individual, cultural, linguistic, and emotional factors, among which are age, ethnicity, and verbal ability. The extent to which motivation can, in fact, be a strong predictor of reading performance, varies significantly across studies and grade levels.

In the current chapter, we examine recent literature (i.e., from 2000 to the present) describing studies in which motivation has been acknowledged as a significant contributor to reading ability, and discuss their findings, to better understand the variability of such impact. We focus on studies pertaining to elementary students. The analysis of such findings can help clarify the extent to which reading motivation does, in fact, predict reading ability when other cognitive and linguistic factors have been controlled for. This exploration will also help understand the various ways in which motivation can be better utilized to increase reading achievement, particularly among young readers.

**Keywords** Motivation predictors · Reading achievement · Motivation

P. Orellana García (✉)
School of Education, Universidad de los Andes, Chile
e-mail: porellan@uandes.cl



P. Orellana García, P. Baldwin Lind (eds.), *Reading Achievement and Motivation in Boys and Girls*, Literacy Studies 15,
https://doi.org/10.1007/978-3-319-75948-7_5

## 5.1 Introduction

The ability to comprehend written text depends on several factors, among which both cognitive and motivational aspects play a significant role (Guthrie et al. 1999; Schaffner and Schiefele 2013). Comprehension is complex, and relies on the articulation of several reading sub processes that occur concurrently (Van Dyke and Shankweiler 2013). Evidence has demonstrated that reading sub processes, as well as other cognitive aspects, can predict reading competence in different ways. Vocabulary, decoding skills, and phonological awareness are among the most widely analyzed sub processes predicting comprehension ability, but there is also evidence about the role of prior knowledge and strategy use, and how they affect our understanding of written text (Stahl and McKenna 2006; Afflerbach 1990; Hirsch 2006; Pearson and Hamm 2005). More recently, studies have attended to the role that executive skills have in determining reading ability. Among these functions, cognitive flexibility has been identified as contributing to significant unique variance to reading comprehension in the different elementary grades, even beyond other cognitive factors (Altemeier et al. 2008).

Overall, evidence seems to point to the notion that a combination of cognitive and linguistic aspects has traditionally explained partial variance in reading comprehension, with lower-level processes such as word recognition, phonological processing and processing speed (among others) predicting from 15% to 70% of comprehension variance (Katzir et al. 2006). As children grow and encounter more complex texts and tasks, comprehension ability relies more strongly on skills such as the use of background knowledge or higher order thinking. More recently, research has also examined the ways in which motivational aspects play a role in the reader's ability to comprehend text. The contribution of motivation has been largely examined considering different theoretical approaches to motivation, among which are, for example, self-determination (Ryan and Deci 2000), and expectancy value. Self-determination theory focuses on intrinsic motivation to read. Intrinsic motivation to read refers to an individual's desire to read out of personal enjoyment and pleasure. This type of motivation has been proven to have a stronger and more decisive impact on academic achievement, and more specifically in reading (Wigfield et al. 2004; Schiefele et al. 2012). Engaged students typically spend more time reading because they find it pleasurable and valuable, and interact with peers who also value reading (McLaughlin 2012). On the other hand, extrinsic motivation refers to external rewards associated with good reading habits, such as grades, social valuation, parental approval, or other material rewards. Evidence has demonstrated the negative impact of extrinsic rewards on comprehension (Yin-Kum 2008; Ryan and Deci 2000), unless combined with intrinsic motivation (Wang and Guthrie 2004).

Recent studies about the role of motivation in reading comprehension have explored how students' expectations for success, together with the value students give to reading tasks, affect their understanding of text (Cartwright et al. 2016). Students who believe they are good readers and value reading are also students who perform better at reading comprehension tasks. This finding has been largely

confirmed for older students, particularly those in the upper elementary and middle grades (Wang and Guthrie 2004; Bozack and Salvaggio 2013), but not as extensively among younger children. These studies are rooted in expectancy-value theory. Among the findings for older students, it has been shown that motivation can predict comprehension among older children, controlling for factors such as initial comprehension levels (Taboada et al. 2009) or cognitive and linguistic factors (Bozack and Salvaggio 2013; Wang and Guthrie 2004).

For students in the lower elementary grades, correlational studies have examined reading motivation and achievement yielding important insights into: (a) the directionality/bi directionality of the relationship (Morgan and Fuchs 2007); (b) the evolution of the relationship across grade levels (Meece and Miller 1999; McKenna et al. 1995); and (c) the magnitude of the correlation (Morgan and Fuchs 2007; Petscher 2010). More recently, analyses have addressed the role of students' expectations for success, together with the value students give to reading tasks, and how these affect their understanding of text (Cartwright et al. 2016). Motivated readers not only believe in their own ability to comprehend texts, but also value and see reading as a pleasurable activity, and show better levels of performance on comprehension tasks. These studies have confirmed that motivation can predict comprehension among younger children, but there is a need to further explore these findings by also looking at the role factors such as initial comprehension levels (Taboada et al. 2009), cognition and language play in the ways in which motivation and comprehension are related (Bozack and Salvaggio 2013; Wang and Guthrie 2004).

Understanding the extent to which motivation predicts achievement under these predicaments can be a much more complex task, as several contextual and linguistic factors must be accounted for. The use of different theoretical stances that may have been adopted to define reading motivation and the use of different tools to assess motivation may make it difficult to compare studies. While these potential difficulties may partially explain the reason why few studies have addressed the predictive nature of reading comprehension, it is important to examine how motivation contributes to reading achievement among children who are just starting to become independent readers, especially if it can be a driver that helps struggling readers persevere in reading activity despite their difficulties (Morgan and Fuchs 2007).

Similarly, the predictive role of reading motivation on comprehension can also be difficult to analyze if studies have examined motivation using self-reporting tools that have not been validated, because young children may interpret questions differently (Nolen 2007). On the other hand, self-reported questionnaires that are built around clearly defined motivational constructs facilitate the understanding of the contributions that can be attributed to motivation as a predictor of reading achievement. For example, studies like the ones analyzed by Morgan and Fuchs in 2007 (e.g., Chapman and Tunmer 1995; Lepola et al. 2000; Gottfried 1990) used tools where constructs such as competency beliefs and goal orientations were clearly delineated and could be empirically determined. Such tools have the potential to determine how specific motivation constructs may be linked to comprehension enhancement. When comparing findings from various predictive studies, it is also important to analyze results by creating categories that include findings that are

comparable among them. For example, studies in which controlled variables included verbal ability, verbal knowledge, vocabulary, or language, have estimated the percentage of variance explained by reading motivation to be as low as 6% and as high as 65% (see, for example, Stutz et al. 2016; and Wang and Guthrie 2004).

## 5.2 Method

To examine the findings from studies predicting reading outcomes from reading motivation, we searched for published studies dated from the year 2000 onwards. Rather than conducting a meta-analysis, we chose the systematic review approach. Researchers who have analyzed the predictive value of reading motivation on comprehension have used a wide array of theoretical approaches, data collection tools, and outcome variables in their studies. The variety in these procedures would make it very difficult to compare findings from a meta-analytical perspective. Pooling effect estimates from individual studies that have not defined reading motivation in the same way may lead to confusion about how much variation in motivation affects comprehension. A systematic review, on the other hand, allows for more heterogeneity because they require a search in the entire body of the literature, yet at the same time it maintains rigorous control over selection for inclusion and exclusion and replicability (Pawson et al. 2005).

To address our question of how much variation can be accounted for by motivation, when cognitive and linguistic aspects are controlled, we conducted a wide search of published studies using the EBSCO, Psychology and Behavioral Sciences Collection, JSTOR, and ERIC databases as our search engines. The search parameters included: (1) studies published after 2000; (2) published in an indexed, peer-reviewed journal; and (3) use of rigorous research methods reporting percentage of variance explained by motivation components. Similar criteria have been used in other reviews of prediction studies such as in Linder et al. (2013), and La Paro and Pianta (2000). We also used the reference sections of some selected publications to identify additional sources that would meet the three criteria. Abstracts were examined in more detail and used to group the studies according to motivation components used as predictors and reading components used as outcome variables. A total of 840 publications emerged from the first search. A second round of reviews was made to ensure that criterion 3 (reporting percentage of variance explained) was met. A considerable number of studies had to be excluded because they did not focus mainly on elementary grade readers. This inclusion criteria was determined precisely because of the lack of studies examining the predictability of motivation over comprehension within that specific school-grade level (Stutz et al. 2016; McElvany et al. 2008). Similarly, a considerable number of publications addressed the correlation between motivation and reading achievement, (see, for example, Schiefele et al. 2012; Schaffner et al. 2013; De Naeghel and Van Keer 2013) but did not conduct regressions to examine the extent to which motivation would contribute to reading comprehension performance.

We found 15 articles published in renowned peer-reviewed reading journals that fulfilled the above-listed criteria. This amount is quite small, considering the much larger quantity of studies where predictive analyses of motivation and reading comprehension were conducted for older students, particularly in middle school. Table 5.1 lists the studies that were eligible and the features examined.

Among the selected publications, some examined the predictive value of motivation on comprehension for more and less-competent readers. Others (e.g., Wang and Guthrie 2004), compared the predictive power of extrinsic versus intrinsic motivation while at the same time examining these variables from a cross-cultural perspective (e.g., U.S. versus Chinese students). Only one study was found which examined the extent to which reading motivation predicted comprehension among students for whom English was a second or foreign language, although several published articles explore this aspect among high-school and college readers.

Once studies were selected we classified them based on whether results explained controlling for cognitive, linguistic factors and/or other factors, although we must admit that there is considerable overlap of these measures in the majority of the studies analyzed. However, we report them separately, and we categorized them in either group based on the most salient features the researchers had controlled for. Linguistic factors included specific reading subprocesses, such as decoding, prior reading ability, verbal processing or verbal ability in general, whereas cognitive factors included executive functions, comprehension strategy use or working memory. Although executive functions and working memory are required to adequately decode words and retrieve information when reading, they are also considered cognitive because they allow readers cognitive flexibility to adjust their reading strategies and purposes for the sake of comprehension.

In the next two sections, we discuss these findings with particular emphasis on the amount of variance explained by motivation in each case. Prior to that, we comment on some general themes that emerged from our analysis of the selected articles.

## 5.3 Results

### *5.3.1 General Aspects*

Our search for articles that examined the predictive role of reading motivation on reading comprehension ratified what previous authors had observed regarding the lack of studies focusing on early elementary students (e.g., Cartwright et al. 2016; Wang and Guthrie 2004). We agree with authors who emphasize the need to comprehend the unique ways in which motivation supports comprehension as early as possible, particularly for students who, as early as second grade, begin to exhibit poor reading ability. Understanding the ways in which motivation contributes to a student's reading ability in a timely manner can allow teachers to provide the

**Table 5.1** Motivation predictors of reading comprehension controlling for cognitive and linguistic aspects

| Reference/Study | Approach to Reading Motivation | Amount of Variance explained | Cognitive and Linguistic Aspects Controlled |
|---|---|---|---|
| 1. Martínez, R. S., Aricak, O. T., & Jewell, J. (2008). Influence of reading attitude on reading achievement: A test of the temporal-interaction model. *Psychology In The Schools, 45*(10), 1010–1023. | Implicit models of reading (Schraw and Bruning 1999; Unrau and Schlackman 2006). | 22% | Cognitive ability, prior reading achievement. |
| 2. Park, Y. (2011). How motivational constructs interact to predict elementary students' reading performance: Examples from attitudes and self-concept in reading. *Learning and Individual Differences, 21*, 347–358. | Expectancy-value (intrinsic vs. extrinsic motivation). | 17% | Gender, SES, amount of reading outside school, class mean SES and within class proportion of students with reading difficulties. |
| 3. Liebfreund, M. D., & Conradi, K. (2016). Component skills affecting elementary students' informational text comprehension. *Reading & Writing, 29*, 1141–1160. | Construction-integration model (Kintsch 1988, 1998, 2004) and interactive compensatory model (Stanovich 1980). | 62.5% | Cognitive ability. |
| 4. Guthrie, J. T., Hoa, L. W., Wigfield, A., Tonks, S. M., Humenick, N. M., & Littles, E. (2007). Reading motivation and reading comprehension growth in the later elementary years. *Contemporary Educational Psychology, 32*, 282–313. | Engagement model (Guthrie and Wigfield 2000). | 12% (interest as motivation), 22% (choice as motivation), 12% (involvement as motivation), and 9% (overall motivation). | Pre-test reading comprehension. |
| 5. Stutz, F., Schaffner, E., & Schiefele, U. (2016). Relations among reading motivation, reading amount, and reading comprehension in the early elementary grades. *Learning and Individual Differences, 45*, 101–113. | Expectancy-value (intrinsic vs. extrinsic reading motivation). | 6% | Cognitive ability and socioeconomic status. |

(continued)

**Table 5.1** (continued)

| Reference/Study | Approach to Reading Motivation | Amount of Variance explained | Cognitive and Linguistic Aspects Controlled |
|---|---|---|---|
| 6. Schaffner, E., Philipp, M., & Schiefele, U. (2014). Reciprocal effects between intrinsic reading motivation and reading competence? A cross-lagged panel model for academic track and non-academic track students. *Journal of Research in Reading*, 1–18. | Expectancy-value (intrinsic vs. extrinsic motivation). | N/A (factor analysis) | Cognitive ability. |
| 7. Guthrie, J. T., Wigfield, A., Humenick, N. M., Perencevich, K. C., Taboada, A., & Barbosa, P. (2006). Influences of stimulating tasks on reading motivation and comprehension. *Journal of Educational Research*, *99*(4), 232–245. | Engagement perspective. | Number of stimulating tasks in reading comprehension accounted for 22% of variance in motivation. | Controlling for beginning of year reading comprehension. Motivation has a mediating effect. |
| 8. Logan, S., Medford, E. & Hughes, N. (2011). The importance of intrinsic motivation for high and low ability readers' reading comprehension performance. *Learning and Individual Differences, 21*, 124–128. | Expectancy-value (intrinsic vs. extrinsic motivation) in proficient vs struggling readers. | 21% among low-ability readers. | Cognitive and verbal ability. |
| 9. Howse, R. B., Lange, G., Farran, D. C., & Boyles, C. D. (2003). Motivation and self-regulation as predictors of achievement in economically disadvantaged young children. *The Journal of Experimental Education, 71*(2), 111–174. | Motivation and self-regulation. | 36% together with vocabulary knowledge and self-regulation, 5% motivation alone. | Age, cognitive ability, and ethnicity. |
| 10. Wang, J. H.-Y. & Guthrie, J. T. (2004). Modeling the effects of intrinsic motivation, extrinsic motivation, amount of reading, and past reading achievement on text comprehension between U.S. and Chinese students. *Reading Research Quarterly*, *39*, 162–186. | Expectancy-value (cross-cultural, compared U.S. and Chinese students). | 64% for U.S. students, and 73% for Chinese students. | Past reading achievement, reading amount, and extrinsic motivation. |

(continued)

**Table 5.1** (continued)

| Reference/Study | Approach to Reading Motivation | Amount of Variance explained | Cognitive and Linguistic Aspects Controlled |
|---|---|---|---|
| 11. Cartwright, K. B., Marshall, T. R., & Wray, E. (2016). A Longitudinal study of the role of Reading motivation in primary Students' reading comprehension: Implications for a less simple view of reading. *Reading Psychology*, *37*(1), 55–91. | Expectancy-value. | 19.9% in longitudinal studies. | Verbal ability, initial reading comprehension, some executive functions. |
| 12. Lepola, J., Niemi, P., Kuikka, M., & Hannula, M. (2005). Cognitive-linguistic skills and motivation as longitudinal predictors of reading and arithmetic achievement: A follow-up study from Kindergarten to Grade 2. *International Journal of Educational Research*, *43*, 250–271. | Motivational orientations: Task orientation and social dependence. | 6–11% | Linguistic skills. |
| 13. Taboada, A., Tonks, S., Wigfield, A., & Guthrie, J. (2009). Effects of motivational and cognitive variables on reading comprehension. *Reading and Writing: An Interdisciplinary Journal*, *22*, 85–106. | Internal dimensions. | 11.8% | Cognitive ability. |
| 14. Katzir, T., Lesaux, N. & Kim, Y. S. (2009). The role of reading' self-concept and home literacy practices in fourth-grade reading comprehension. *Reading and Writing*, *22*, 261–276. | Self-perception and attitudes towards reading. | 17%reading difficulty 14%, reading competence6%, and attitude towards reading 8% | Age, verbal ability, and word reading skills. |
| 15. Solheim, O. J. (2011). The impact of reading self-efficacy and task value on reading comprehension scores in diferent item formats. *Reading Psychology, 32*(1), 1–27. | Expectancy-value. | 20% for multiple choice items, 26% for constructed (essay-type) response. | Word reading ability, listening comprehension and non-verbal ability. |

necessary scaffolding and instructional support that will allow that student to become an autonomous reader. Motivation refers to individual drives about expectations of success on reading tasks, but also leads to valuing reading activities, which in turn make it likely for students to spend more time engaged in literacy. A considerable amount of evidence supports the notion that intrinsic motivation is strongly linked to reading amount (Wang and Guthrie 2004), and that reading amount facilitates or at least mediates the acquisition of higher levels of comprehension (Guthrie et al. 1999).

Another aspect emerging from our search reveals the small repertoire of studies focusing on the predictive role of motivation on comprehension for second language learners. Only one article was found to address this group of readers in the elementary grades (Netten et al. 2011). Globalization has brought forth a huge increase in the number of children who, for various reasons, have to deal with comprehension in a second or foreign language, often with considerable disadvantages due to lack of language knowledge. Just as reading sub-processes do transfer from L1 to L2, it is possible that students who like to read in their home language be also motivated to read in a second language, particularly when literature in L2 offers a wider array of topics, genres, or formats. Just as research on comprehension in first language acknowledges the role of motivation in a person's ability to comprehend text (McLaughlin 2012), considering the extent to which motivation to read in the first language may transfer to reading in a second language can be informative of the ways in which these constructs interact regardless of text language.

Finally, our revision of articles examining the predictive role of reading motivation and its unique contribution to reading achievement revealed that the majority of studies exhibited a combination of cognitive and linguistic factors as variables controlled for. Only 3 of the selected studies report variance explained by comprehension when purely cognitive variables are controlled (e.g., Liebfreund and Conradi 2016; Martínez et al. 2008; Guthrie et al. 2007). In most of the studies, however, authors not only report a combination of cognitive and linguistic variables, but also include demographic aspects such as gender, socioeconomic status, amount of reading, reading difficulty, ethnicity and listening comprehension. In the majority of the studies the unique variance explained by motivation is reported along with the percentage attributed to the other factors analyzed.

### *5.3.2 Predictive Role of Motivation when Cognitive Factors Are Controlled*

Traditionally, motivation to read has been strongly correlated with reading ability, with better comprehenders generally exhibiting higher levels of intrinsic reading motivation than those who have difficulty comprehending texts (Baker and Wigfield 1999; Chapman and Tunmer 1995; Gottfried 1990). Students who struggle with comprehension are easily frustrated when confronted with texts that pose high

demands on cognitive skills, particularly verbal processing, but also executive functions such as working memory. Most struggling readers use a considerable amount of their working memory and other cognitive tools to process text at the decoding level, thus deploying valuable cognitive resources before they can focus on comprehension. On the other hand, retrieving information, making connections, cross-checking and monitoring are all strategies proficient readers use with relative ease. These students do not need to use a huge amount of cognitive resources to decode because they have already "cracked the code", so most of their decoding is effortless. Because the use of these skills yields positive results in reading competence, their motivation to read is boosted. Low-performing students, on the other hand, may be easily frustrated and give up when comprehension demands become overwhelming. Frustration causes loss of interest in reading. Thus, the cause-effect relationship between reading failure and non-motivated readers can often be observed among low-performing readers, and it is usually a vicious circle that is difficult to break. Logan et al. (2011) observed that intrinsic motivation explained up to 21% of the variance in comprehension for low-ability students along with decoding, whereas for competent readers, most of the variance is explained by verbal ability. Motivation can be especially important for students identified with reading difficulties, particularly at the early elementary level, because it provides the emotional energy that allows them to be persistent in the task and not give up when facing difficulties. In line with Morgan and Fuchs (2007) and Law and Chan (2003), Logan et al. (2011) emphasize the importance of enhancing readers' intrinsic motivation early in their school lives so that they do not become frustrated when confronted with difficult reading tasks. Another study by Schaffner et al. (2014), however, found a stronger impact of intrinsic motivation ($R^2 = 0.63$) over reading ability for students in an academic track —and therefore better-performing students— than for those in non-academic tracks in German schools. The authors identify a reciprocal relationship between the two constructs that is strongly dependent on school track affiliation, controlling for prior reading ability.

Howse et al. (2003) analyzed the role of motivation as a predictor of reading ability among Kindergarten at-risk (e.g. economically disadvantaged) and no-risk (middle SES) students. Using stepwise regressions, they were able to determine that motivation was a significant predictor of reading achievement that, along with self-regulation and vocabulary, could explain up to 36% of the variance in reading scores. However, motivation alone only explained 5% of the variance. The findings also showed that motivation contributed in similar ways for children at risk as well as for children who are not at risk.

The ability to comprehend different text types may also be mediated by motivation in different ways. Liebfreund and Conradi (2016) examined the unique contributions of motivation to students' comprehension of informational text beyond grade and age. Together with decoding, vocabulary and prior knowledge, intrinsic motivation to read explained 63% of total variance. More specifically, intrinsic motivation could explain additional variance in a smaller amount, but when looking at the way in which each factor impacted comprehension, intrinsic motivation and vocabulary were consistent predictors of informational text comprehension for low-

ability readers, a finding that is in line with what was observed by Logan et al. (2011). In line with Schiefele (1999), the authors suggest that the ways in which motivation influences and predicts comprehension ability differs across different types of readers. Furthermore, intrinsic motivation was a significant predictor of reading growth over time, mainly for low-performing readers, a finding that was also identified by Logan et al. (2011). In a secondary analysis of PIRLS data for U.S. students, Park (2011) analyzed reading attitude and self-concept in relation to reading ability for over 5000 students. Multilevel analysis showed that the extent to which reading motivation can predict reading ability among fourth graders is strongly dependent on a combination of motivational facets. For example, the ways in which peers perceived a reader's competence was a better predictor of reading ability if the reader also had a high self-perception of his or her ability to comprehend text. All in all, however, Park was able to establish that motivation could explain 17% of the variance in reading comprehension controlling for SES, amount of reading, and percentage of students with reading difficulties. Similarly, Guthrie et al. (2007) found motivation to be a significant predictor of end-of-year comprehension, with reading interest explaining 12% of its variance and book choice explaining 22% of variance in reading growth, controlling for prior reading skills. The fact that variance explanation changes depending on which motivational aspect is taken into account is yet another proof of how complex the contribution of reading motivation can be. As a multidimensional concept, the role of motivation as a predictor of reading ability can vary, with different facets having varying levels of predictive power, depending on which domain is observed. Both studies also stress the importance of targeting intrinsic motivation after confirming that self-related facets of motivation are more strongly and positively related to reading ability.

Taboada et al. (2009) also found that motivation, background knowledge and cognitive strategy use made significant independent contributions to fourth-grade children's reading ability when other variables were controlled. Similarly, Cartwright et al. (2016) found a significant contribution of reading motivation to comprehension, both concurrently and longitudinally beyond decoding, verbal ability and executive function. These two studies confirm the notion that motivation can predict reading comprehension growth over time, even for young readers. Along similar lines, the research conducted by Martínez et al. (2008) suggests that reading motivation in the early grades can have a temporal interaction upon later reading achievement that must not be overlooked. They looked at fourth-grade students reading attitudes using the ERAS (McKenna and Kear 1990) and correlated these scores with fourth-grade reading achievement measures but found relatively low levels of correlation. Four months later, they assessed reading ability in fifth grade. Results showed that motivation to read in fourth grade predicted reading achievement in fifth grade and could account for 22% of the variance in fifth-grade reading achievement. These findings were in line with what Kush et al. (2005) had observed when analyzing reading achievement and motivation of second- and third- graders which did not correlate, but, when regressing seventh-grade scores for the same students, observed that both second-grade measures showed causal paths to seventh-grade reading. These results point to the fact that early reading motivation does impact

future reading performance, thus supporting the need for better understanding of motivational patterns when children are in the early stages of reading.

### *5.3.3 Predictive Value of Reading Motivation when Linguistic Factors Are Controlled*

A small number of the studies we selected found that motivation predicted comprehension over and above linguistic factors. Language skills have been found to be strongly related to children's ability to comprehend texts (Cain et al. 2004) particularly when children are learning to read. For example, aspects such as word decoding and listening comprehension (Verhoeven and van Leeuwe 2008) have been identified as strong predictors of reading comprehension for elementary students; however, some linguistic factors are also strongly tied to reading sub processes and cognitive skills. For example, the ability to know and understand the meaning of an unfamiliar way may depend on a reader's language knowledge, such as the use of morphemic (Carlisle 2000) or syntactic analysis (Mokhtari and Thompson 2006) to determine a word's meaning, but it may also relate to cognitive tasks such as association to background knowledge or the use of contextual information (Fenson et al. 1994; Van der Schuit et al. 2011). It is therefore not surprising that in most cases the studies that examined motivation as a predictor of comprehension controlled for both cognitive and linguistic factors at the same time. In fact, three of the studies we identified exhibit a combination of these two aspects: Katzir et al. (2009), Cartwright et al. (2016), and Logan et al. (2011), whereas only one of them (Lepola et al. 2005) focused on motivation and comprehension in relation to verbal skills.

Logan and colleagues found that verbal IQ explained significant variance among successful readers, whereas for poorer readers, variance in comprehension was explained by decoding skills, not intrinsic motivation. When they looked at the role of intrinsic motivation on reading growth, the low ability group seemed to benefit more than the more competent group. This can be explained by the fact that more proficient readers have already acquired an adequate proficiency level on those verbal skills required to better understand a text. Less proficient readers, by contrast, must rely on a series of low-level verbal skills associated with decoding or word recognition. This finding is interesting, because previous studies had mainly emphasized the impact of intrinsic motivation on competent readers, and boosting intrinsic motivation on low-ability may significantly contribute to their improvement across the years. The pedagogical implications tap into the notion that there are many things teachers can do that develop intrinsic reading motivation among struggling readers, particularly when it comes to matching reader ability to text level, or to allowing choice in terms of genre, topic, or reading format.

Along the same lines, a follow-up study conducted by Lepola et al. (2005) examined the extent to which motivational orientations (specifically task orientation and social dependence) in Kindergarten Finnish students predicted their reading and

mathematical skills in Grades 1 and 2. They showed that these motivational traits could explain between 6 and 11% of variance in second grade comprehension, contributing in different ways, over and above prior abilities. For beginning readers, a higher level of task focus made a stronger impact, whereas children with lower level reading ability showed higher levels of social dependence. Furthermore, children who exhibited lower levels of performance in mathematics and reading exhibited downward motivation trajectories that were strongly associated to their achievement in both areas. Lepola et al. (2005) identified task orientation (a sub-construct within intrinsic motivation) to have a unique contribution to reading achievement when controlling for linguistic skills, and that this contribution was higher among students in second grade than in the lower grades. Among kindergartners, task orientation contributed to decoding, but not to comprehension, a finding that is in line with Schiefele et al. (2012) who report that higher levels of intrinsic motivation (particularly involvement) significantly correlated with comprehension among younger students (second and third grade). Findings from the studies we have described highlight the powerful role of motivation in beginning reading instruction, and point to the need to strengthen this predictor as soon as children begin reading instruction. As Lepola et al. (2005) show, children who are strongly dependent on others to carry out their tasks exhibit lower levels of motivation as they move up the grade levels, along with lower levels of performance. This may be explained by a loss in the "sense of control" that takes place early in their schooling, especially when children who struggle with reading see themselves as falling behind those who exhibit better levels of performance. These students require ongoing support from others (social dependence), which, as their studies suggest, negatively impact their reading autonomy over the years (Greenfield Spira et al. 2005; Niemi et al. 1999).

Finally, a study by Katzir et al. (2009) indicated that readers' self-concept was positively associated with reading ability, specifically the student's sense of ease with reading. They accounted for age, word reading and verbal ability. Results showed that children who believed reading was easy had higher comprehension scores. Of the three self-concept components, they assessed, sense of ease explained the highest percent of variance (14%). In line with the work of Gottfried (1990), Guthrie et al. (1999), and others, the authors support the fact that reading depends on both cognitive and motivational factors beyond linguistic ability, and point to children's perception of their own reading ability as an important contributor to reading performance.

### *5.3.4 Other Factors Reported*

Many of the studies we analyzed also explored other factors that either mediated or affected reading performance and motivation. Among the most frequently reported factors is amount of reading, which has been found to be a mediator of the effect of intrinsic motivation on comprehension (see, for example, Schaffner et al. 2013;

Guthrie et al. 1999). Solheim (2011), for example, examined the impact of intrinsic motivation on reading comprehension with different test formats used to assess comprehension. Using expectancy-value as a framework for motivation, she established that motivation to read accounts for additional variance in comprehension (20 to 26%) controlling for word reading ability, listening comprehension and other cognitive abilities. Reading self-efficacy predicted Norwegian students' reading performance on multiple-choice test formats for children who had lower levels of self-efficacy, whereas for students who exhibited higher self-perceptions of their reading ability, self-efficacy did not predict comprehension scores. These results emphasize the notion that self-efficacy is an important feature affecting the development of reading comprehension. Students who show higher levels of self-efficacy feel motivated when confronted with more challenging reading tasks such as more elaborated response, whereas students with lower levels of self-efficacy may feel more comfortable and better trained to respond to multiple-choice questions. As Solheim states, "the level of self-efficacy affects how much students understand of the texts they read about but probably also the degree to which they are able to demonstrate what they have actually understood" (p. 22). From a pedagogical standpoint, then, it would be important to ensure that students who perceive themselves as low efficacious be given plenty of opportunities to demonstrate their understanding of text in formats such as constructed response or short answer questions. In times of high-stakes standardized assessment, this restates the need to look for more in-depth ways to identify students' reading ability than a traditional multiple-choice format.

## 5.4 Conclusion

The current chapter has addressed the extent to which reading motivation predicts reading comprehension controlling for cognitive and linguistic factors. We decided to focus on the elementary grades because there is a lack of studies reporting predictability in these grade levels (Schiefele et al. 2016; Hamilton et al. 2013; Law 2008). Our search for studies reporting variance explained, and controlling for cognitive and linguistic factors proved that only a handful of studies have addressed this topic in the early elementary grades, and few of them explain how they controlled for such factors in an isolated manner. In terms of methods, the most widely used are multiple regressions, hierarchical regressions and structural equation modeling. All studies confirm that it is intrinsic, and not extrinsic motivation, which is most closely related with reading competence, a finding that has been consistent in the literature.

On the other hand, our findings show that the percentage of variance explained by intrinsic motivation varies significantly: it can be as low as 6% or as high as 64%. The wide range in variance can be explained as a function of the amount of factors controlled for and the extent to which these are disaggregated. The variance explained also differs as a function of some individual aspects such as reading abil-

ity (e.g. Logan et al. 2011), socioeconomic status (Katzir et al. 2009) and age (Howse et al. 2003), or a combination of all these aspects and their relationship to self-efficacy. For example, for older readers performing at grade level, the correlation between reading ability and self-efficacy (an intrinsic motivation construct) is stronger than for younger students or for students with some degree of reading difficulty (Chapman and Tunmer 1995; Lepola et al. 2000; Chapman et al. 2000).

Similarly, the difference in the amount of variance explained by intrinsic motivation in the studies we examined can also be attributed to the type of reading it refers to. As De Naeghel et al. (2012) point out, the independent contribution of intrinsic motivation, and particularly reading self-concept to reading achievement, is higher when it pertains recreational reading than when it impacts academic reading. Students who read in their leisure time are more motivated than those who do not. Likewise, they tend to read self-chosen texts, which, in turn, boost their interest in reading. Although some of this intrinsic motivation is likely to transfer to more academic reading instances, the amount of variance explained by intrinsic motivation may also be a function of the reading situation a student is involved in.

Together, all the articles stress the importance of developing positive reading self-concepts among students as early as possible. Notably, self-efficacy is one of the strongest predictors of comprehension ability (Chapman and Tunmer 1995; Lepola et al. 2000). In fourth grade students, self-efficacy is positively related to reading comprehension (Katzir et al. 2009; Shell et al. 1995), even after controlling for verbal ability and word reading skills. Building high levels of self-efficacy is particularly important for those students with learning disabilities; since their reading motivation decreases earlier, and negatively impacts reading comprehension (Chapman et al. 2000; Tabassam and Grainger 2002). As one examines the findings presented by the articles included in this revision, it becomes even more evident that research on the predictive role of reading motivation in the early grades can positively impact the development of practices to foster self-efficacy and other motivational constructs before comprehension is affected.

## References

Afflerbach, P. (1990). The influence of prior knowledge and text genre on readers' predictive strategies. *Journal of Reading Behavior, 22*(2), 131–148.

Altemeier, L. E., Abbott, R. D., & Berninger, V. W. (2008). Executive functions for reading and writing in typical literacy development and dyslexia. *Journal of Clinical and Experimental Neuropsychology, 30*, 588–606.

Baker, L., & Wigfield, A. (1999). Dimensions of children's motivation for reading and their relations to reading activity and reading achievement. *Reading Research Quarterly, 34*(4), 452–477.

Bozack, A. R., & Salvaggio, A. N. (2013). Relational effects of reading motivation and academic achievement among adolescent boys. *Reading Psychology, 34*, 507–522.

Cain, K., Oakhill, J., & Bryant, P. (2004). Children's reading comprehension ability: Concurrent prediction by working memory, verbal ability, and component skills. *Journal of Educational Psychology, 96*(1), 31–42.

Carlisle, J. F. (2000). Awareness of the structure of meaning of morphologically complex words: Impact on reading. *Reading and Writing: An Interdisciplinary Journal, 12*, 169–190.

Cartwright, K. B., Marshall, T. R., & Wray, E. (2016). A longitudinal study of the role of reading motivation in primary students' reading comprehension: Implications for a less simple view of reading. *Reading Psychology, 37*(1), 55–91.

Chapman, J. W., & Tunmer, W. E. (1995). Development of young children's reading self-concepts: An examination of emerging subcomponents and their relationship with reading achievement. *Journal of Educational Psychology, 87*, 154–167.

Chapman, J. W., Tunmer, W. E., & Prochnow, J. E. (2000). Early reading-related skills and performance, reading self-concept, and the development of academic self-concept: A longitudinal study. *Journal of Educational Psychology, 92*, 703–708.

De Naeghel, J., Van Keer, H., Vansteenkiste, M., & Rosseel, Y. (2012). The relation between elementary students' recreational and academic reading motivation, reading frequency, engagement, and comprehension: A selfdetermination theory perspective. *Journal of Educational Psychology, 104*, 1006–1021. https://doi.org/10.1037/a0027800.

De Naeghel, J., & Van Keer, H. (2013). The relation of student and class-level characteristics to primary school students' autonomous reading motivation: A multilevel approach. *Journal of Research in Reading*, *36*, 351–370. doi: 0.1111/j.1467-9817.2013.12000.x

Fenson, L., Dale, P. S., Reznick, J. S., Bates, E., Thal, D., & Pethick, S. J. (1994). Variability in early communicative development. *Monographs of the Society for Research in Child Development, 59*(5), 1–185.

Gottfried, A. E. (1990). Academic intrinsic motivation in young elementary school children. *Journal of Educational Psychology, 82*, 525–538.

Greenfield Spira, E., Storch Bracken, S., & Fischel, J. E. (2005). Predicting improvement after first-grade reading difficulties: The effects of oral language, emergent literacy, and behavior skills. *Developmental Psychology, 41*, 225–234.

Guthrie, J. T., Hoa, L. W., Wigfield, A., Tonks, S. M., & Perencevich, K. C. (2006). From spark to fire: Can situational reading interest lead to long-term reading motivation? *Reading Research and Instruction, 45*, 91–117.

Guthrie, J. T., Wigfield, A., Metsala, J. L., & Cox, K. E. (1999). Motivational and cognitive predictors of text comprehension and reading amount. *Scientific Studies of Reading, 3*, 231–256.

Guthrie, J. T., Hoa, L. W., Wigfield, A., Tonks, S. M., Humenick, N. M., & Littles, E. (2007). Reading motivation and reading comprehension growth in the later elementary years. *Contemporary Educational Psychology, 32*, 282–313.

Hamilton, E. W., Nolen, S. B., & Abbott, R. D. (2013). Developing measures of motivational orientation to read and write: A longitudinal study. *Learning and Individual Differences, 28*, 151–166. https://doi.org/10.1016/j.lindif.2013.04.007.

Hirsch, E. (2006). Building knowledge: The case for bringing content into the language arts block and for a knowledge-rich curriculum core for all children. *American Educator, 30*(1), 8–29.

Howse, R. B., Lange, G., Farran, D. C., & Boyles, C. D. (2003). Motivation and self-regulation as predictors of achievement in economically disadvantaged young children. *The Journal of Experimental Education, 71*(2), 111–174.

Katzir, T., Kim, Y.-K., Wolf, M., O'Brien, B., Kennedy, B., Lovett, M., & Morris, R. (2006). Reading fluency: The whole is more than the parts. *Annals of Dyslexia, 56*, 51–82.

Katzir, T., Leseaux, N., & Kim, Y. S. (2009). Reading self-concept and reading comprehension for middle grade elementary school children. *Reading and Writing: An Interdisciplinary Journal, 22*, 261–276.

Kush, J. C., Watkins, M. W., & Brookhart, S. M. (2005). The temporal-interactive influence of reading achievement and reading attitude. *Educational Research and Evaluation, 11*, 29–44.

La Paro, K. M., & Pianta, R. C. (2000). Predicting children's competence in the early school years: A meta-analytic review. *Review of Educational Research, 70*, 443–484.

Law, Y.-K. (2008). The relationship between extrinsic motivation, home literacy, classroom instructional practices and reading proficiency in second-grade Chinese children. *Research in Education, 80*, 37–51.

Law, K., & Chan, D. (2003). Reading strategy use and motivation among Chinese good and poor readers in Hong Kong. *Journal of Research in Reading, 26*, 177–190.

Lepola, J., Vauras, M., & Mäki, H. (2000). Gender differences in the development of academic self-concept of attainment from 2nd to 6th grade: Relations with achievement and perceived motivational orientation. *Journal of the Hellenic Psychological Society, 7*, 290–308.

Lepola, J., Niemi, P., Kuikka, M., & Hannula, M. (2005). Cognitive-linguistic skills and motivation as longitudinal predictors of reading and arithmetic achievement: A follow-up study from Kindergarten to Grade 2. *International Journal of Educational Research, 43*, 250–271.

Liebfreund, M. D., & Conradi, K. (2016). Component skills affecting elementary students' informational text comprehension. *Reading & Writing, 29*, 1141–1160.

Linder, S., Ramey, M. D., & Zambak, S. (2013). Predictors of school readiness in literacy and mathematics: A selective review of the literature. *Early Childhood Research and Practice, 15*(1.) Retrieved from http://ecrp.uiuc.edu/v15n1/linder.html.

Logan, S., Medford, E., & Hughes, N. (2011). The importance of intrinsic motivation for high and low ability readers' reading comprehension performance. *Learning and Individual Differences, 21*, 124–128.

Martínez, R. S., Aricak, O. T., & Jewell, J. (2008). Influence of reading attitude on reading achievement: A test of the temporal-interaction model. *Psychology in the Schools, 45*(10), 1010–1023.

McElvany, N., Kortenbruck, M., & Becker, M. (2008). Lesekompetenz und Lesemotivation: Entwicklung und Mediation des Zusammenhangs durch Leseverhalten [reading competence and reading motivation: Their development and the mediation of the relationship by reading behavior]. *Zeitschrift für Pädagogische Psychologie, 22*, 207–219. https://doi.org/10.1024/1010-0652.22.34.207.

McKenna, M. C., & Kear, D. J. (1990). Measuring attitude toward reading: A new tool for teachers. *The Reading Teacher, 43*(8), 626–639. https://doi.org/10.1598/RT.43.8.3.

McKenna, M. C., Kear, D. J., & Ellsworth, R. A. (1995). Children's attitudes toward reading: A national survey. *Reading Research Quarterly, 30*(1), 934–956.

McLaughlin, M. (2012). Reading comprehension: What every teacher needs to know. *The Reading Teacher, 65*(7), 432–440.

Meece, J. L., & Miller, S. D. (1999). Changes in elementary school children's achievement goals for reading and writing: Results of a longitudinal and an intervention study. *Scientific Studies of Reading, 3*, 207–229.

Mokhtari, K., & Thompson, H. B. (2006). How problems of reading fluency and comprehension are related to difficulties in syntactic awareness among fifth graders. *Reading Research and Instruction, 46*, 73–94.

Morgan, P. L., & Fuchs, D. (2007). Is there a bidirectional relationship between children's reading skills and reading motivation? *Exceptional Children, 73*, 165–183.

Netten, A., Droop, M., & Verhoeven, L. (2011). Predictors of reading literacy for first and second language learners. *Reading and Writing: An Interdisciplinary Journal, 24*(4), 413–425.

Niemi, P., Kinnunen, R., Poskiparta, E., & Vauras, M. (1999). Do pre-school data predict resistance to treatment in phonological awareness, decoding, and spelling? In I. Lundberg, F. E. Tonnessen, & I. Austad (Eds.), *Dyslexia: Advances in theory and practice* (pp. 245–254). Dordrecht: Kluwer.

Nolen, S. B. (2007). Young children's motivation to read and write: Developmental in social contexts. *Cognition and Instruction, 25*(2/3), 129–270.

Park, Y. (2011). How motivational constructs interact to predict elementary students' reading performance: Examples from attitudes and self-concept in reading. *Learning and Individual Differences, 21*, 347–358.

Pawson, R., Greenhalgh, T., Harvey, G., & Walshe, K. (2005). Realist review—A new method of systematic review designed for complex policy interventions. *Journal of Health Services Research & Policy, 10*(1), 21–34.

Pearson, P., & Hamm, D. (2005). The assessment of reading comprehension: A review of practices-past, present, and future. In S. G. Paris & S. A. Stahl (Eds.), *Children's reading comprehension and assessment* (pp. 13–69). Mahwah: Lawrence Erlbaum Associates Publishers.

Petscher, Y. (2010). A meta-analysis of the relationship between student attitudes towards reading and achievement in reading. *Journal of Research in Reading, 33*(4), 335–355.
Ryan, R. M., & Deci, E. L. (2000). Intrinsic and extrinsic motivations: Classic definitions and new directions. *Contemporary Educational Psychology, 25*(1), 54–67.
Schaffner, E., & Schiefele, U. (2013). The prediction of reading comprehension by cognitive and motivational factors: Does text accessibility during comprehension testing make a difference? *Learning and Individual Differences, 26*, 42–54.
Schaffner, E., Schiefele, U., & Ulferts, H. (2013). Reading amount as a mediator of the effects of intrinsic and extrinsic reading motivation on reading comprehension. *Reading Research Quarterly, 48*(4), 369–385. https://doi.org/10.1002/rrq.52.
Schaffner, E., Philipp, M., & Schiefele, U. (2014). Reciprocal effects between intrinsic reading motivation and reading competence? A crosslagged panel model for academic track and non-academic track students. *Journal of Research in Reading,* 1–18. doi: https://doi.org/10.1111/1467-9817.12027.
Schiefele, U. (1999). Interest and learning from text. *Scientific Studies of Reading, 3*, 257–279.
Schiefele, U., Schaffner, E., Moller, J., & Wigfield, A. (2012). Dimensions of reading motivation and their relation to reading behavior and competence. *Reading Research Quarterly, 47*, 427–463. https://doi.org/10.1002/RRQ0.30.
Schiefele, U., Stutz, F., & Schaffner, E. (2016). Longitudinal relations between reading motivation and reading comprehension in the early elementary grades. *Learning and Individual Differences, 51*, 49–58. https://doi.org/10.1016/j.lindif.2016.08.031.
Shell, D. F., Colvin, C., & Bruning, R. H. (1995). Self-efficacy, attributions, and outcome expectancy mechanisms in reading and writing achievement: Grade-level and achievement level differences. *Journal of Educational Psychology, 87*(3), 3867–3398.
Solheim, O. J. (2011). The impact of reading self-efficacy and task value on reading comprehension scores in different item formats. *Reading Psychology, 32*(1), 1–27.
Stahl, K. A. D., & McKenna, M. C. (Eds.). (2006). *Reading research at work: Foundations of effective practice*. New York: Guilford Press.
Stutz, F., Schaffner, E., & Schiefele, U. (2016). Relations among reading motivation, reading amount, and reading comprehension in the early elementary grades. *Learning and Individual Differences, 45*, 101–113. https://doi.org/10.1016/j.lindif.2015.11.022.
Tabassam, W., & Grainger, J. (2002). Self-concept, attributional style and self-efficacy beliefs of students with learning disabilities with and without attention deficit hyperactivity disorder. *Learning Disability Quarterly, 25*, 141–151.
Taboada, A., Tonks, S., Wigfield, A., & Guthrie, J. (2009). Effects of motivational and cognitive variables on reading comprehension. *Reading and Writing: An Interdisciplinary Journal, 22*, 85–106.
Van der Schuit, M., Segers, E., van Balkom, H., & Verhoeven, L. (2011). How cognitive factors affect language development in children with intellectual disabilities. *Research in Developmental Disabilities, 32*(5), 1884–1894.
Van Dyke, J., & Shankweiler, D. P. (2013). From verbal efficiency theory to lexical quality. In M. A. Britt, S. Goldman, & J. F. Rouett (Eds.), *Reading—From words to multiple texts*. New York: Routledge.
Verhoeven, L., & van Leeuwe, J. (2008). Prediction of the development of reading comprehension: A longitudinal study. *Applied Cognitive Psychology, 22*, 407–423. https://doi.org/10.1002/acp.1414.
Wang, J. H.-Y., & Guthrie, J. T. (2004). Modeling the effects of intrinsic motivation, extrinsic motivation, amount of reading, and past reading achievement on text comprehension between US and Chinese students. *Reading Research Quarterly, 39*(2), 162–186.
Wigfield, A., & Guthrie, J. T. (1997). Relations of children's motivation for reading to the amount and breadth of their reading. *Journal of Educational Psychology, 89*, 420–432.
Wigfield, A., Guthrie, J., & Perencevich, K. (2004). Children's motivation for reading: Domain specificity and instructional influences. *The Journal of Educational Research, 97*(6), 299–309.

# Part II
# Field Studies

# Chapter 6
# Young Children's Motivation to Engage in Social Aspects of Reading


**Linda B. Gambrell, Katherine Corbett, Koti Hubbard, Lorraine A. Jacques, and Leslie Roberts**

**Abstract** This study examined the reading motivation of struggling readers in kindergarten through third grade (n = 52) with respect to factors associated with motivation, gender and age/grade level differences. Students' reading motivation was assessed using the Me and My Reading Profile (MMRP) with follow-up interviews conducted with 20% of the students (n = 13). Confirmatory factor analyses confirmed three factors associated with motivation to read: self-concept, value, and literacy out loud. Analysis of variance (ANOVA) on the scores on the MMRP revealed a statistically significant difference between the factors of value and literacy out loud, with value being the most positively rated factor. With respect to gender, ANOVA revealed that girls reported more positive motivation to read than boys, with girls scoring higher than boys on all three factors. The grade level analysis revealed that second and third grade students scored significantly higher on each factor, reflecting more positive motivation than students in kindergarten and first grade. These findings confirm the three factors associated with motivation to read (self-concept, value, and literacy out loud) reported in an earlier study and extends the findings to struggling readers in kindergarten through third grade. This finding challenges the notion that there is an inverse relationship between age/grade level and motivation to read. The findings of this study suggest that for struggling readers, motivation to read increases from Grades K/1 to 2/3.

**Keywords** Motivation to read · Struggling readers · Gender differences in motivation · Age/grade level differences in motivation

L. B. Gambrell (✉) · K. Corbett · K. Hubbard · L. A. Jacques · L. Roberts
Clemson University, Clemson, SC, USA
e-mail: LGAMB@clemson.edu; kacorbe@clemson.edu; khubbar@g.clemson.edu; lorriaj@g.clemson.edu; lrober3@g.clemson.edu



P. Orellana García, P. Baldwin Lind (eds.), *Reading Achievement and Motivation in Boys and Girls*, Literacy Studies 15,
https://doi.org/10.1007/978-3-319-75948-7_6

There has been increasing interest in the role of motivation in the reading development of young children during the past two decades. Motivation is recognized as one of the key prerequisites for fostering reading proficiency according to a position paper published by the International Reading Association (2000). Young children who are struggling readers tend to be less motivated to engage in reading tasks and activities than proficient readers. Less proficient, or struggling readers, have more negative self-concepts (Chapman et al. 2000; Stanovich et al. 1998), feel more helpless (Sabatino 1982; Valas 1999), and avoid reading activities (Salonen et al. 1998) more often than their peers. Research suggests that low motivation to read may be a critical factor in reading failure (Morgan et al. 2008; Sideridis et al. 2006).

Children who do not choose to engage in reading rarely become proficient readers (Guthrie et al. 2001; Hiebert 2009). A number of studies indicate that students who spend more time reading become better readers (Allington and McGill-Franzen 2003; Cunningham and Stanovich 1998; Taylor et al. 1990; Wigfield and Guthrie 1997). Motivation to read is also associated with a number of important correlates, such as higher reading achievement, greater conceptual understanding, and the ability to sustain engagement when reading tasks are challenging (Guthrie and Humenick 2004; Morgan and Fuchs 2007). Therefore, supporting and nurturing reading motivation is crucial to improving the literacy development of young children, particularly struggling readers.

According to Wigfield and Guthrie (1997), highly motivated children read three times as much outside of school as their less motivated peers. Guthrie et al. (1999) reported that motivation significantly predicted the amount of reading practice children engaged in after statistically controlling for prior reading achievement. Thus, Guthrie et al. concluded that motivation is the "preeminent predictor" of frequent reading. Unfortunately, struggling readers are often unmotivated to read (e.g., Chapman 1988; Lepola et al. 2000). Because of the link between motivation to read and reading practice, poor readers' lack of motivation is increasingly suggested as an underlying cause of long-term reading difficulties (e.g., Baker 2000; Gambrell and Morrow 1996; Pressley 2002; Quirk and Schwanenflugel 2004; Stanovich 1986; Wigfield and Eccles 2000). Morgan and Fuchs (2007) reviewed 15 studies and found a modest correlation between young children's reading skills and reading motivation. They suggest a bidirectional relationship exists between reading skills and motivation. According to Morgan and Fuchs, young children's reading skills and motivation influence each other and this affects their later reading development, pointing to the need to provide instruction and interventions to counteract both poor reading skills and motivation.

Despite the wide range of studies conducted on motivation, the affective components of reading motivation are not well characterized for younger struggling readers. Two factors that appear frequently in the literature are self-concept and appreciation of the value of reading (Brophy 2004, 2008; Chapman and Tunmer 1995; Eccles et al. 1993; Wigfield and Eccles 2000). In a recent study that explored the reading motivation of children in Grades K–2, Marinak et al. (2015) identified a third factor, literacy out loud. While beliefs about self-concept and value of reading focus on personal beliefs, literacy out loud focuses on external demonstrations of

reading such as reading out loud to others and talking about books with others. The primary goal of the present study was to characterize the reading motivation of struggling readers in Grades K–3, and more specifically to determine if the factor identified as literacy out loud plays a role in their reading motivation. In addition, gender and age/grade differences in the reading motivation of struggling readers were of interest.

## 6.1 Theoretical Framework and Review of Relevant Research

Motivation is a construct that is complex; consequently, an ever-increasing number of motivational theories have been put forth in an effort to explain the role of motivation in literacy learning (see Malloy and Gambrell 2008). Motivation refers to what moves people to put forth effort. Motivational theorists, therefore, are concerned primarily with the "whys" of behavior. To understand motivation's influence on literacy behavior, theorists and researchers are interested in the choices students make about the reading they do, the amount of effort they exert on reading tasks, and their degree of persistence in the activity of reading.

There are a number of motivational theories that are relevant to the topic of motivation to read. Many of these theories overlap in principles and constructs (Bergin and LaFave 1998); however, current theories of motivation are in general agreement about the importance of self-concept as a reader (perceived competence) and appreciation of the value of reading. Eccles (1983) and Wigfield (1994) have advanced the expectancy-value theory (EVT) of motivation that posits that motivation is strongly influenced by one's expectation of success or failure at a task as well as the value or relative attractiveness the individual places on the task. Wigfield and Eccles (2000) emphasize the role of self-concept and value of reading as critical constructs of motivation. The self-concept component of motivation is supported by a number of research studies that suggest that students who believe they are capable and competent are more likely to outperform those who do not hold such beliefs (Paris and Oka 1986; Schunk and Zimmerman 1997). In addition, there is evidence to suggest that students who perceive reading as valuable and important and have personally relevant reasons for reading will engage in reading in a more thoughtful and effortful manner (Brophy 2008; Paris and Oka 1986).

A number of studies indicate that there are gender differences in motivation. Research consistently reveals that girls are more motivated to read than boys (Baker and Wigfield 1999; Kush and Watkins 1996; Marinak and Gambrell 2010; McKenna et al. 1995; Twist et al. 2004). Only a few studies have focused on gender differences in early literacy development. In a study of first and second-grade Finnish and U.S. students' motivation to read, girls reported higher motivation to read than boys across both countries (Mazzoni et al. 1999). Marinak and Gambrell (2010) explored the gender gap in a study of third-grade average readers and found no significant differences in the self-concept of boys and girls, however there was a significant

difference in the appreciation of the value of reading, with boys placing a lower value on reading than girls. Given the consistency of the finding that girls are more motivated to read than boys, it is not surprising that the debate about the role of gender differences in motivation to read has increased in recent years, with particular attention to boys' underachievement and lower motivation to read (Mohr 2006; Smith and Wilhelm 2002). According to the Education Alliance (2007) more studies are needed in order to provide information about appropriate motivational and instructional strategies and interventions for all students, and particularly for young boys.

Since the 1990s, with the publication of the McKenna et al. (1995) study of elementary students that reported an inverse relationship between grade level and reading motivation, many educators and researchers have assumed that motivation to read begins to decline in first grade. There is some evidence that motivation to read decreases as students progress through the elementary grades (Eccles et al. 2005; Mata et al. 2009; McKenna et al. 1995; Rea et al. 1997). However, the majority of these studies have been conducted with students in third grade and above. On the other hand, the findings of several studies suggest that early reading motivation remains fairly stable through the end of 2nd grade (Gambrell et al. 2014; Mata 2011; Mazzoni et al. 1999). The findings of these studies suggest that there may be variations in the motivation to read of young children that have not been fully accounted for in prior research that has suggested a linear decline in motivation from Grades 1 through 6. One hypothesis is that children come to school with high motivation to read, and as they begin to develop reading skill their motivation continues to increase until the end of Grade 2. At the end of Grade 2, struggling readers begin to become more aware of how their reading skills compares to that of their peers, and at this point motivation to read begins to decline (Gambrell et al. 2014). More research is needed to examine the trajectory of reading motivation for younger and struggling readers.

Clearly, additional research is needed that will investigate critical dimensions of motivation during the early developmental period of literacy acquisition. We know a great deal more about the reading motivation of children ages 8 and above. In comparison, there has been little attention devoted to the reading motivation of younger and struggling readers. Thus, the present study was designed to explore the reading motivation of struggling readers in Grades K–3 with respect to factors associated with motivation, gender, and age/grade level differences.

## 6.2 Method

### *6.2.1 Participants*

The participants were 52 struggling readers in Grades K–3 in an elementary school in the eastern United States. There were 9 kindergarteners (6 boys; 3 girls), 17 first graders (9 boys; 8 girls), 19 second graders (10 boys; 9 girls), and 7 third graders

(5 boys; 2 girls). Approximately 700 students, Grades K–6, attend the school (75% White, 17% Asian, 11% Black, and 2% Hispanic). Twenty-six percent of the students come from low-income homes (based on qualifying for free and reduced lunch). In 2014, 13% of the students enrolled in the elementary school did not meet the state standards for literacy (English/Language Arts). The students who participated in the present study were enrolled in an afterschool tutoring program for struggling readers who had been identified as reading below grade level. Four of the 52 struggling readers were English language learners. Scores on the Measures of Academic Progress (MAP) for reading were used to confirm that students in the program were reading below grade level. The MAP reliability and validity estimates are reported to be in the acceptable range (Northwest Evaluation Association 2004).

### 6.2.2 Procedures

The *Me and My Reading Profile* (MMRP) (Marinak et al. 2015) was individually administered to each student. The MMRP is designed to assess young children's reading motivation (see Appendix) and is comprised of 22 items: two items ask for demographic information (grade, gender) and twenty items constitute three subscales of the MMRP: five items that assess the child's self-concept as a reader (items# 1, 3, 7, 11, and 19), 10 items that assess the child's appreciation of the value of reading (items# 2, 4, 10, 12, 14, 15, 16, 17, 18, and 20), and 5 items that assess literacy out loud (items# 5, 6, 8, 9, and 13).

The tutor read each item aloud, using the animal illustrations to guide the child from one item to the next. The children were told that there "are no right or wrong answers." The first two items ask for demographic information (grade, gender) and were designed to acquaint children with item format and method of response used in the motivation items. The teachers provided the following instructions: (Teacher: "Listen the first time I read each item, then I will read it again and you can circle the best answer for you. Put your finger on the bear. Do you like to read books all by yourself? Put your finger on number 1, Yes. Put your finger on number 2, It's OK. Put your finger on number 3, No. Now I will read the item again and you can circle the answer that is best for you."). The administration of the MMRP takes approximately 15 min.

### 6.2.3 Reliability, Validity and Scoring of the MMRP

In order to increase the reliability of student responses, the items on the MMRP are variably scaled. Some items have responses that are listed in order from least motivating to most motivating (scored 1–3) and other items have responses that are listed in order from most motivating to least motivating (scored 3–1). Reliability analyses (Cronbach 1951) for the MMRP (Marinak et al. 2015) revealed scale alphas ranging

from 0.78 (self-concept and value) to 0.87 (literacy out loud) with all items contributing to the over-all scale reliability of 0.89. Confirmatory factor analysis using inter-factor correlations was used to examine validity, confirming the 3 factors (self-concept, value, and literacy out loud).

Follow-up interviews were conducted with 20% of the students (n = 13) to explore struggling readers motivation to read. Students were interviewed individually and their responses to 12 questions were audio-taped and transcribed for analysis. The items on the questionnaire asked students to provide answers to questions about self-concept ("What kind of reader do you think you are?" "Tell me what makes you think that you are a _____ reader?"), value of reading ("Do you think learning to read is important?" "Can you tell me why? …or why not?"), and literacy out loud (How do you feel when you read out loud to someone? How do you feel when you talk about books you are reading?). A prompt was provided to encourage students to elaborate ("Tell me more about that.").

## 6.3 Data Analysis and Results

This study explored the reading motivation of students identified as struggling readers in Grades K–3. Three factors related to struggling readers' reading motivation were identified and item analysis was conducted in order to identify what young children find "most motivating" and "least motivating." The responses to the MMRP were analyzed for factor (self-concept, value, and literacy out loud), gender, and grade level differences. The MMRP scores were recoded for the negatively ordered response items so that the most positive responses were represented by the highest value (3) for each Likert-type response item. Follow-up interviews were conducted with 20% of the students to gain insights about their motivation to read.

Reliability analyses (Cronbach 1951) were conducted for the responses of the participants in this study on the MMRP revealing overall reliability of 0.89, with self-concept at 0.78, value at 0.78, and literacy out loud at 0.87 with scale alphas ranging from 0.86 to 0.87. Confirmatory factor analysis suggested that the hypothesized model of the three factors was an acceptable fit for the data ($\chi^2$ (167) = 169.710, p = 0.427; CFI = 0.92; RMSEA = 0.02). For each factor, all items correlated above 0.5, except item 18 that correlated with the value factor at 0.2. It was decided to include this item in the current study because the factor of value was well represented with a total of 10 items and removing item 18 did not have a significant effect on the overall reliability.

A one-way analysis of variance (ANOVA) was conducted on participants' ratings on the MMRP to examine possible differences between gender and grade levels. The analysis revealed a statistically significant difference, F(1, 154) = 4.307, p = 0.015. A post-hoc Tukey test revealed that the value of reading (M = 2.43; SD = 0.41) was rated significantly higher than literacy out loud (M = 2.15, SD = 0.52) (p = 0.01). Self-concept as a reader (M = 2.35, SD = 0.53) was not significantly different from literacy out loud or value.

In addition, item analysis revealed the "most positive" and "least positive" scores for the 20 items on the MMRP (see Fig. 6.1). The 6 "most positive" items reflected value of reading (5 items) and self-concept (1 item) while the "least positive" were represented by items across all three factors: self-concept, 1 item; value, 2 items; literacy out loud, 3 items.

### 6.3.1 Gender Analysis

ANOVA revealed overall statistically significant differences for gender (girls, M = 2.50, SD = 0.41, boys, M = 2.18, SD = 0.40, F (1, 50) = 17.996, $p < 0.01$) for all three constructs. There were statistically significant differences between boys and girls on self-concept, value, and literacy out loud (see Table 6.1). When analyzed by grade level, the gender difference persisted for Grades K/1, but not for Grades 2/3 (see Table 6.2).

| Most Positive Items | Least Positive Items |
|---|---|
| 2. Learning to read is very important. (M = 2.75) (value) | 9. Do you like to read books out loud to someone else? (M = 1.94) (literacy out loud) |
| 20. I think becoming a good read is very important. (M = 2.69) (value) | 6. I tell my friend about books I read. (M = 1.96) (literacy out loud) |
| 10. I think libraries are a great place to spend time (M = 2.65) (value) | 4. My friends think reading is really fun. (M = 2.04) (value) |
| 14. If someone gave me a book for a present I would feel happy. (M = 2.58) (value) | 1. I like to read books all by myself. (M = 2.15) (self-concept) |
| 18. I have lots of "favorite" books. (M = 2.50) (value) | 13. I always like to talk about my ideas in a group. (M = 2.17) (literacy out loud) |
| 19. For me, reading is easy. (M = 2.50) (self-concept) | 17. I really like reading with others. (M = 2.17) (value) |

**Fig. 6.1** Most positive and least positive MMRP items by mean score

**Table 6.1** ANOVA for girls and boys by factor

| | Girls (n = 22) | Boys (n = 30) | |
|---|---|---|---|
| | Mean (SD) | Mean (SD) | F(1,50) |
| Self-concept | 2.53 (0.50) | 2.23 (0.52)* | 4.36 |
| Value | 2.60 (0.36) | 2.30 (0.40)** | 8.15 |
| Literacy out loud | 2.35 (0.55) | 2.01 (0.46)* | 6.13 |

*$p < 0.05$.
**$p < 0.01$.

**Table 6.2** ANOVA for girls and boys by grade level

| | Girls (n = 22) | Boys (n = 30) | |
|---|---|---|---|
| | Mean (SD) | M (SD) | F(1,24) |
| Grades K/1 | 2.39 (0.50) | 1.98 (0.41)* | 5.38 |
| Grades 2/3 | 2.60 (0.27) | 2.37 (0.28) | 4.16 |

*p < 0.05.

**Table 6.3** ANOVA for grade levels K/1 and 2/3 by factor

| | K/1 (n = 26) | 2/3 (n = 26) | |
|---|---|---|---|
| | Mean (SD) | Mean (SD) | F (1,50) |
| Self-concept | 2.18 (0.63) | 2.53 (0.33)* | 6.43 |
| Value | 2.28 (0.47) | 2.57 (0.29)* | 6.99 |
| Literacy out loud | 2.00 (0.55) | 2.31 (0.45)* | 4.80 |

*p < 0.05.

**Table 6.4** ANOVA of girls and boys by factor and grade level

| | Grades K/1 | | | Grades 2/3 | | |
|---|---|---|---|---|---|---|
| | Girls (n = 11) | Boys (n = 15) | F(1.24) | Girls (n = 11) | Boys N = 15) | F(1,24) |
| | Mean (SD) | Mean (SD) | | Mean (SD) | Mean (SD) | |
| Self-concept | 2.45 (0.61) | 1.97 (0.58) | 4.20 | 2.60 (0.36) | 2.48 (0.32) | 0.81 |
| Value | 2.50 (0.46) | 2.13 (0.42)* | 4.61 | 2.71 (0.21) | 2.47 (0.30)* | 5.38 |
| Literacy out loud | 2.22 (0.68) | 1.84 (0.39) | 3.22 | 2.49 (0.37) | 2.17 (0.47) | 3.42 |

*p < 0.05.*

With few exceptions, the MMRP item analysis by gender showed little variation with the top 6 most positive and 6 least positive items for the total group. One exception was that for boys, item 16 ("I like to read when I have free time.") was among the least positive items. The other exception was that for girls, item 19 ("For me, reading is easy.") was among the least positive items.

### *6.3.2 Grade Level Analysis*

The ANOVA for grade level was conducted for two groups, Grades K and 1 (n = 26) and Grades 2 and 3 (n = 26) due to the small number of students in Grades K and 3. The analysis revealed statistically significant differences between Grades K/1 and 2/3 ($F(1, 154) = 17.01$, $p < 0.01$), with Grades 2/3 scoring significantly higher on each factor (see Table 6.3). When examined by gender within these grade divisions, only value showed a statistically significant difference, with girls reporting a more positive motivation than boys (see Table 6.4).

With few exceptions the MMRP item analysis by grade level showed little variation with the top 6 most positive and 6 least positive items. One exception for Grades K/1 was that item 16 ("I like to read when I have free time.") was among the least positive items. Also, for Grades 2/3 item 11 ("I like reading a lot.") was among the most positive items and item 5 ("I feel happy when I read out loud to someone.") was among the least positive items.

### *6.3.3 Follow-up Interviews*

Following the administration of the MMRP, individual interviews were conducted with 13 randomly selected students (20% of the sample) to further explore struggling readers' motivation to read. The interviews were audio-taped and transcribed for analysis. Students' responses provided insights about the importance of the three factors related to reading motivation: self-concept, value, and literacy out loud.

**Self-concept** With respect to self-concept the interviews revealed that ten out of the twelve students responded that they were "good readers." When asked why they are good readers, the replies ranged from "because I know words" to "because I read a lot." Two children responded that they were "OK" readers. When asked why they were OK readers, one student said, "I don't get some words sometimes" and another student replied, "I mess up on some words and I get some words right." When asked why they thought they were good (or OK) readers four of the twelve students mentioned the importance of practice. One student responded, "I practice and I spend my whole day reading sometimes. Like after lunch I'll read." Another student responded, "because I read every single night."

**Value of Reading** All twelve of the students who were interviewed reported that reading is important. When asked "why", one first-grade student responded: "because it is good for your mind." Other students responded with very practical reasons such as, "because when you grow up… you are going to have to read a lot when you have a job…" and "because if my mom didn't learn to read the *inglés* sign she wouldn't be able to go to *inglés*, she would drive past it..."

**Literacy Out Loud** When asked about how they feel about reading out loud to someone seven out of twelve children gave negative responses. Students used words such as the following to describe how they feel about reading out loud: sad, boring, scared, embarrassed, awkward, and nervous. When asked "why do you feel that way?" one student responded, "because I'm scared I won't know the words…" and another student responded, "because it gets scary reading out loud with friends staring at you."

When asked about reading out loud in reading groups one student replied, "I feel a little nervous." When asked "why?" the student said, "…if you mess up they might all laugh and that is kind of embarrassing." However, during the interview only

three of the eleven students responded with negative comments about talking about books in a reading group. Some of the positive replies included the following: "because you get to share it (the books) and that can make people feel happy or sad" and "good. Because I like to talk about the book."

In general, the interviews confirmed the responses to the items on the MMRP with respect to the motivation factors of self-concept, value, and literacy out loud. The strongest congruence between the students' responses on the MMRP and the interviews was for the factor of value, followed by self-concept, and literacy out loud.

## 6.4 Discussion and Conclusions

Literacy educators and researchers contend that the early years are a critical period for literacy development and that positive motivation to read is associated to reading proficiency, deeper cognitive processing, and willingness to persevere when reading becomes difficult (Allington 1991; Hidi 1990; Logan et al. 2011; Tobias 1994). The findings of the present study lead to two major conclusions. First, the study confirms the important role of three factors related to motivation to read for younger struggling readers. The results of this study are consistent with the finding reported by Marinak et al. (2015) of three factors associated with motivation to read for young children: self-concept, value, and literacy out loud. While Marinak et al. (2015) found these factors were associated with motivation to read for children in Grades K–2, the present study extends the findings for struggling readers in Grades K–3 and substantiates the existence of the factor, literacy out loud.

With respect to gender differences in motivation, the findings of this study are consistent with the findings of others researchers who have reported that girls are more motivated to read than boys (Kush and Watkins 1996; McKenna et al. 1995; Merisuo-Storm 2006; Marinak and Gambrell 2010; Saracho and Dayton 1991). On all three factors (self-concept, value, and literacy out loud) girls who were struggling readers reported they were more motivated to read than boys who were struggling readers. An unexpected finding was that when gender differences were analyzed by age/grade level (Grades K/1 and Grades 2/3) there was a significant gender difference, with girls in kindergarten and 1st grade reporting higher motivation than boys, however this finding did not persist for girls and boys in Grades 2 and 3. The finding of significant differences for students in Grades K–1 with girls reporting higher motivation to read than boys is contrary to the findings reported by Mata (2011). Mata found that for 5-year-old kindergarten students there were no gender differences in motivation to read. Further research is needed to explore whether boys and girls come to school with different patterns of reading motivation or whether gender differences develop as children encounter formal reading instruction in school.

Of particular interest is the finding that struggling readers in Grades 2 and 3 reported more positive motivation to read than children in kindergarten and 1st grade. This finding calls into question the conclusions from other studies that suggest that students' motivation to read decreases across grades one through six (McKenna et al. 1995; Rea et al. 1997). The results of this study of struggling readers suggests that motivation to read may increase across the early Grades K–3, in keeping with the findings of Mazzoni et al. (1999).

The primary contribution of this study is the characterization of struggling readers' motivation to read as multidimensional. Three distinct and differentiated factors were identified: self-concept, appreciation of the value of reading, and literacy out loud. The identification of these three distinct motivational factors confirms the multidimensional nature of reading motivation for struggling readers in Grades K–3. The factors of self-concept, value, and literacy out loud are in keeping with Bruning and Horn's (2000) theoretical notions about factors that support literacy motivation: nurturing positive beliefs about competence (self-concept); engagement in authentic reading tasks and activities (value); and providing a positive and supportive context for reading (literacy out loud).

The struggling readers who participated in this study were most positive about their appreciation of the value of reading and least positive about literacy out loud. The results of the MMRP and the interviews suggest that even younger struggling readers appreciate the value of reading and recognize the important role that reading plays in their lives at home and at school. As one student said, "…if you don't read you won't be able to learn anything from books." The second most positive factor was self-concept. The struggling readers in this study reported strong self-concepts as readers on both the MMRP and in the interviews. Many of the comments in the interview reflected the notion that these students believe they are good readers because they "sound out words" and "read a lot." One student reported that she is a good reader "because I know words like echolocation, nocturnal, and mammal." Another student, noting the important role of practice, responded that he is a good reader because "I read a lot."

The least positive factor was literacy out loud as reflected in scores on the MMRP as well as the comments made by students during the interviews. According to Gambrell and Gillis (2007) the reading motivation scores of young children tend to be inflated because young children have not yet experienced notable failure or frustration. One explanation for literacy out loud being the least positive factor is that younger readers may first become aware of the fact that they are struggling with reading when they have to demonstrate their reading ability by reading out loud. During the interviews children made remarks that suggested they viewed reading as decoding (or getting the words right), rather than making meaning; this could be a result of the tendency to focus on decoding in the primary grades. Reading out loud requires students to decode (or get the words right) in front of an audience. When questioned about how they feel when they read out loud students commented, "I feel kind of sad", "I get embarrassed" and "I might mess up and they laugh."

However, when asked about how they felt about talking about books in a reading group, all twelve students gave positive responses such as, "it's okay" or "good." These comments suggest that it is reading out loud that causes young struggling readers the most concern. It is interesting that while struggling readers report that in general they view themselves as good readers, they report negative feelings about their performance as readers when they read aloud. Future research is warranted further explore the relationship between self-concept and literacy out loud.

Limitations in the study included a small sample size due to enrollment in the afterschool tutoring program and data collected at one point in the school year. Further research in this area would benefit from looking at data across the school year and comparing the results found with struggling readers to typically developing readers. Greater knowledge about the development of reading motivation in younger children, and especially struggling readers, is needed. Such knowledge can help researchers as they explore more explicit conceptions of reading motivation and can help teachers develop instruction to support young children's reading motivation.

## References

Education Alliance. (2007). *Gender differences in reading achievement: Policy implications and best practices*. Retrieved from http://www.educationalliance.org/Downloads/Research/GenderDifferences.pdf

Allington, R. L. (1991). The legacy of "slow it down and make it more concrete". In J. Zutell & S. McCormick (Eds.), *Learner factors/teacher factors: Issues in literacy research and instruction* (pp. 19–30). Chicago: National Reading Conference.

Allington, R. L., & McGill-Franzen, A. (2003). The impact of summer loss on the reading achievement gap. *Phi Delta Kappan, 85*(6), 68–75.

Baker, L. (2000). Building the word-level foundation for engaged reading. In L. Baker, M. J. Dreher, & J. T. Guthrie (Eds.), *Engaging young readers: Promoting achievement and motivation* (pp. 17–42). New York: Guilford.

Baker, L., & Wigfield, A. (1999). Dimensions of children's motivation for reading and their relations to reading activity and reading achievement. *Reading Research Quarterly, 34*(4), 452–477. https://doi.org/10.1598/RRQ.34.4.4.

Bergin, D. A., & LaFave, C. (1998). Continuities between motivation research and whole language philosophy of instruction. *Journal of Literacy Research, 30*, 321–356.

Brophy, J. (2004). *Motivating students to learn*. New Jersey: Lawrence Erlbaum Associates.

Brophy, J. (2008). Developing students' appreciation for what is taught in school. *Educational Psychologist, 43*(3), 132–141.

Bruning, R., & Horn, C. (2000). Developing motivation to write. *Educational Psychologist, 35*, 25–37.

Chapman, J. W. (1988). Cognitive-motivational characteristics and academic achievement of learning disabled children: A longitudinal study. *Journal of Educational Psychology, 80*, 357–365.

Chapman, J. W., & Tunmer, W. E. (1995). Development of young children's reading self-concepts: An examination of emerging subcomponents and their relation with reading achievement. *Journal of Educational Psychology, 87*, 154–167.

Chapman, J. W., Tunmer, W. E., & Prochnow, J. E. (2000). Early reading-related skills and performance, reading self-concept, and the development of academic self-concept: A longitudinal study. *Journal of Educational Psychology, 92*, 703–708.

Cronbach, L. (1951). Coefficient alpha and the internal structure of tests. *Psychometrika, 16*, 297–334.

Cunningham, A. E., & Stanovich, K. E. (1998). What reading does for the mind. *American Educator, 22*, 8–15.

Eccles, J. (1983). Expectancies, values, and academic behaviors. In J. T. Spence (Ed.), *Achievement and achievement motives* (pp. 75–146). San Francisco: Freeman.

Eccles, J. S., Wigfield, A., Harold, R., & Blumenfeld, P. C. (1993). Age and gender differences in children's self- and task perceptions during elementary school. *Child Development, 64*, 830–847.

Eccles, J., O'Neill, S., & Wigfield, A. (2005). Ability self-perception and subjective task values in adolescents and children. In K. Moore & L. Lipman (Eds.), *What do children need to flourish? Conceptualizing and measuring indicators of positive development* (pp. 237–249). New York: Springer.

Gambrell, L., & Gillis, V. (2007). Assessing children's motivation for reading and writing. In J. Paratore & R. McCormack (Eds.), *Classroom literacy assessment—Making sense of what students know and do* (pp. 50–64). New York: Guilford.

Gambrell, L. B., & Morrow, L. M. (1996). Creating motivating contexts for literacy learning. In L. Baker, P. Afflerbach, & D. Reinking (Eds.), *Developing engaged readers in school and home communities* (pp. 115–136). Hillsdale: Erlbaum.

Gambrell, L. B., Pang, S., Ramey, M. D., & McCrea-Andrews, H. J. (2014, April). *Assessing young children's reading motivation: Issues and dilemmas*. Paper presented at the meeting of the American Educational Research Association, Philadelphia, PA.

Guthrie, J. T., & Humenick, N. M. (2004). Motivating students to read: Evidence for classroom practices that increase motivation and achievement. In P. McCardle & V. Chabra (Eds.), *The voice of evidence in reading research* (pp. 329–354). Baltimore: Brookes.

Guthrie, J. T., Wigfield, A., Metsala, J. L., & Cox, K. E. (1999). Motivational and cognitive predictors of text comprehension and reading amount. *Scientific Studies of Reading, 3*(3), 231–256.

Guthrie, J. T., Schafer, W. D., & Huang, C. (2001). Benefits of opportunity to read and balanced instruction on the NAEP. *Journal of Educational Research, 94*, 145–162.

Hidi, S. (1990). Interest and its contribution as a mental resource for learning. *Review of Educational Research, 60*(4), 549–571.

Hiebert, E. H. (2009). *Read more, read better*. New York: Guilford Press.

International Reading Association. (2000). Excellent reading teachers: A position statement of the international reading association. *Journal of Adolescent & Adult Literacy, 44*, 193–200.

Kush, J., & Watkins, M. (1996). Long-term stability of children's attitudes toward reading. *Journal of Educational Research, 89*, 315–320.

Lepola, J., Vauras, J., & Mäki, H. (2000). Gender differences in the development of academic self-concept of attainment from the 2nd to the 6th grade: Relations with achievement and perceived motivational orientation. *Journal of Hellenic Psychological Society, 7*, 290–308.

Logan, S., Medford, E., & Hughes, N. (2011). The importance of intrinsic motivation for high and low ability readers' reading comprehension performance. *Learning and Individual Differences, 21*(1), 124–128. https://doi.org/10.1016/j.lindif.2010.09.011.

Malloy, J. A., & Gambrell, L. B. (2008). New insights on motivation in the literacy classroom. In C. C. Block & S. R. Parris (Eds.), *Comprehension instruction: Research-based best practices* (2nd ed., pp. 226–238). New York: Guilford.

Marinak, B., & Gambrell, L. B. (2010). Reading motivation: Exploring the elementary gender gap. *Literacy Research and Instruction, 491*(2), 129–141.

Marinak, B. A., Malloy, J. A., Gambrell, L. B., & Mazzoni, S. A. (2015). Me and my reading profile: A tool for assessing early reading motivation. *The Reading Teacher, 69*(1), 51–62.

Mata, L. (2011). Motivation for reading and writing in kindergarten children. *Reading Psychology, 32*, 272–299.

Mata, L., Monteiro, V., & Peixoto, F. (2009). Motivação para a leitura ao longo da escolaridade [Reading motivation throughout school]. *Análise Psicológica, 27*(4), 563–572.

Mazzoni, S. A., Gambrell, L. B., & Korkeamaki, R. L. (1999). A cross-cultural perspective on early literacy motivation. *Reading Psychology, 20*, 237–253.

McKenna, M. C., Kear, D. J., & Ellsworth, R. A. (1995). Children's attitudes toward reading: A national survey. *Reading Research Quarterly, 30*, 934–956.

Merisuo-Storm, T. (2006). Girls and boys like to read and write different texts. *Scandinavian Journal of Educational Research, 50*(2), 111–125.

Mohr, K. (2006). Children's choices for recreational reading: A three-part investigation of selection, preferences, rationales, and processes. *Journal of Literacy Research, 38*(1), 181–104.

Morgan, P. L., & Fuchs, D. (2007). Is there a bidirectional relationship between children's reading skills and reading motivation? *Exceptional Children, 73*(2), 165–183.

Morgan, P. L., Fuchs, D., Compton, D. L., Cordray, D. S., & Fuchs, L. S. (2008). Does early reading failure decrease children's reading motivation? *Journal of Learning Disabilities, 41*(5), 387–404.

Northwest Evaluation Association. (2004, March). *NWEA achievement level tests and measures of academic progress: Reliability and validity estimates.* Lake Oswego, OR.

Paris, S. G., & Oka, E. R. (1986). Self-regulated learning among exceptional children. *Exceptional Children, 53*, 103–108.

Pressley, M. (2002). *Reading instruction that works: The case for balanced teaching*. New York: Guilford.

Quirk, M. P., & Schwanenflugel, P. J. (2004). Do supplemental remedial reading programs address the motivational issues of struggling readers? An analysis of five popular programs. *Reading Research and Instruction, 43*, 1–19.

Rea, D., Romine, B. C., McKenna, M. C., & Griffin, B. (1997). *A cross-cultural analysis of reading attitude development*. Paper presented at the meeting of the American Educational Research Association, Chicago, IL.

Sabatino, D. A. (1982). Research on achievement motivation with learning disabled populations. *Advances in Learning and Behavioral Disabilities, 1*, 75–116.

Salonen, P., Lepola, J., & Niemi, P. (1998). The development of first graders' reading skill as a function of pre-school motivational orientation and phonemic awareness. *European Journal of Psychology of Education, 13*, 155–117.

Saracho, O. N., & Dayton, C. M. (1991). Age-related changes in reading attitudes of young children: A cross-cultural study. *Journal of Research in Reading, 14*, 33–45. https://doi.org/10.1111/j.1467-9817.1991.tb00004.x.

Schunk, D. H., & Zimmerman, B. J. (1997). Developing self-efficacious readers and writers: The role of social and self-regulatory processes. In J. T. Guthrie & A. Wigfield (Eds.), *Reading engagement: Motivating readers through integrated instruction* (pp. 34–50). Newark: International Reading Association.

Sideridis, G. D., Morgan, P. L., Botsas, G., Padeliadu, S., & Fuchs, D. (2006). Identification of students with learning difficulties based on motivation, metacognition, and psychopathology: A ROC analysis. *Journal of Learning Disabilities, 39*, 215–229.

Smith, M., & Wilhelm, J. (2002). *Reading don't fix no chevy: Literacy in the lives of young men*. Portsmouth: Heinemann.

Stanovich, K. E. (1986). Matthew effects in reading: Some consequences of individual differences in the acquisition of literacy. *Reading Research Quarterly, 21*, 360–406.

Stanovich, P. J., Jordan, A., & Perot, J. (1998). Relative differences in academic self-concept and peer acceptance among students in inclusive classrooms. *Remedial and Special Education, 19*, 120–125.

Taylor, B. M., Frye, B. J., & Maruyama, G. M. (1990). Time spent reading and reading growth. *American Educational Research Journal, 17*, 351–362.

Tobias, S. (1994). Interest, prior knowledge, and learning. *Review of Educational Research, 64*(1), 37–54.

Twist, L., Gnaldi, M., & Schagen, I. (2004). Good readers but at a cost? Attitudes towards reading in England. *Journal of Research in Reading, 27*, 387–400.

Valas, H. (1999). Students with learning disabilities and low achieving students: Peer acceptance, loneliness, self-esteem, and depression. *Social Psychology of Education, 3*, 173–192.

Wigfield, A. (1994). Expectancy-value theory of achievement motivation: A developmental perspective. *Educational Psychology Review, 5*, 49–78.

Wigfield, A., & Eccles, J. (2000). Expectancy–value theory of achievement motivation. *Contemporary Educational Psychology, 25*(1), 68–81.

Wigfield, A., & Guthrie, J. T. (1997). Relations of children's motivation for reading to the amount and breadth of their reading. *Journal of Educational Psychology, 89*(3), 420–432.

# Chapter 7
# Reading Motivation and Achievement Among Chilean Boys and Girls in Grades 3, 4, and 5: An Exploration of Results and Pedagogical Implications

**Pelusa Orellana García and Paula Baldwin Lind**

**Abstract** Although Chilean adolescent students have significantly improved the quality of reading ability in the last decade, reading scores at the elementary levels seem to stagnate, and gender and socioeconomic gaps in reading achievement have not been narrowed despite the efforts to provide students with book access and research-based reading instruction. Similarly, studies have shown that Chileans, across age, gender, and socioeconomic groups, are not inclined to choose reading as a leisure activity (Fundación La Fuente/Adimark GFK. *Chile y los libros*. Santiago: Fundación La Fuente (2010)). The current chapter analyzes motivation and reading achievement performance of 1290 Chilean students in grades 3, 4, and 5. We explore their reading ability using a silent reading comprehension assessment tool that takes into consideration reading ability to provide Lexile measures for individual students. We used (Gambrell LB, Palmer B M, Codling RM, & Mazzoni SA. The Read Teach, 49(7), 518–533 (1996)) *Motivation to Read* profile to assess reading motivation and determine group differences in readers' self-concept and value of reading across gender, socioeconomic status, and grade levels. We assessed students at two time periods, e.g., beginning and end of the school year. Results show that across the school year all students, regardless of grade level, socioeconomic status, and gender, improve in reading achievement, and that there is a conservative positive correlation between motivation and achievement. Reading motivation, however, decreases in the case of boys (both for the construct of self-concept as well as for value of reading), whereas for girls it only decreases for value of reading, and slightly increases for self-concept, particularly in fifth grade. Results also show that readers' self-concept at the beginning of the school year accounts for 26% of the variance in reading achievement in third grade, 35% of the variance in fourth grade,

P. Orellana García (✉)
School of Education, Universidad de los Andes, Chile
e-mail: porellan@uandes.cl

P. Baldwin Lind
Institute of Literature, Universidad de los Andes, Chile
e-mail: pbaldwin@uandes.cl



P. Orellana García, P. Baldwin Lind (eds.), *Reading Achievement and Motivation in Boys and Girls*, Literacy Studies 15,
https://doi.org/10.1007/978-3-319-75948-7_7

and nearly 39% of the variance in fifth grade. The pedagogical implications of these differences in the trajectories of reading growth and reading motivation are discussed.

**Keywords** Reading · Motivation · Reading achievement · Self-concept · Value of reading

## 7.1 Introduction

There is no question regarding the importance of early acquisition of proficient reading skills in order for children to succeed academically (Juel 1988; Snow et al. 1998; Wilson and Hughes 2009). Research has consistently demonstrated that children who acquire reading abilities in the early school years are better prepared to face the more demanding comprehension tasks that they encounter as they progress across the upper grades (Cunningham and Stanovich 1997; Muter et al. 2004). Similarly, there is considerable evidence pointing to the connection between reading motivation and reading achievement (Watkins and Coffey 2004; Malloy et al. 2013; Unrau and Schlackman 2006). It has been widely acknowledged as well, that students who are avid readers in the early years of schooling tend to maintain a positive attitude towards books and reading later in life (Guthrie et al. 2000b; McKenna et al. 1995). Much of that evidence points to the fact that it is important to fully understand how motivation – a multidimensional construct – has an impact on reading outcomes and vice versa, and how its various aspects can contribute to the design of adequate methodologies and stimulate reading success (Pecjak and Peklaj 2006).

On the other hand, several studies have also tried to understand why students lose their interest in books as they grow older (Guthrie and Davis 2003). Children who have struggled with reading in the elementary grades typically continue to struggle in the middle school years, and that has proven to lead to low levels in motivation (Wilson and Hughes 2009). Early reading success seems to boost an intrinsic motivation to read, particularly in third grade and above (Schaffner et al. 2016). Thus, students who typically do better at reading also show more interest in reading *per se*, rather than for the external rewards they may obtain from choosing to read. An important body of research has also shown that, in order to maintain reading motivation across the years and beyond formal education, reading activities in the classroom must be relevant to students' lives and interests. This includes reading tasks as well as reading choice and the range of reading materials (Gambrell 2011). If reading tasks are valued and are seen as something that positively affects a student's personal life, readers become more eager to read. Allowing students to choose what they want to read, and providing a wide range of texts and genres also leads to an increased motivation (Gambrell 1996; Guthrie and Wigfield 2000). The same is true

about the time allotted to reading in the school context (Hiebert 2009; Edmunds and Bauserman 2006). When reading instruction does not relate to topics that interest readers, or when there is no room for students' own choice of school reading material, reading also becomes boring and unimportant. According to Guthrie et al. (2000a), it is possible to identify which classroom practices can have a positive influence on children's reading motivation, particularly when we want them to be intrinsically motivated to read. In order for reading engagement to facilitate reading comprehension, students must be actively involved in conversations about books, and teachers must also believe in their autonomy as readers, while at the same time establish a climate of support and clear expectations about goals (Guthrie et al. 2006).

A third factor that partially explains differences in reading motivation has to do with gender differences (Guthrie et al. 2000a). Evidence from a considerable amount of studies has identified gender differences in reading ability and motivation (Chiu and McBride-Chang 2006; Rosen 2001; Lepola et al. 2000). Studies conducted in fairly different cultural contexts show that girls have consistently performed better than boys in reading across grade levels (Logan and Johnston 2009; McKenna et al. 1995; Merisuo-Storm 2006). Research about the prevalence of reading difficulties also demonstrates that there are more boys than girls who are diagnosed with reading difficulties (Rutter et al. 2004; Wheldall and Limbrick 2010). Gender differences in reading motivation have also shown to change over time, particularly in middle school, and it has been identified as one of the most important factors related to reading interest (Canadian Council on Learning 2009). Most studies about gender differences in reading motivation and achievement have focused on early elementary and adolescent students from North American or European contexts, and there are very few studies that explore reading and motivation between Spanish-speaking and Latin American students. Such analyses would be very helpful in trying to explain the reading and motivation achievement differences among Chilean students, where gender gaps in reading achievement and motivation prevail across all levels.

## 7.2 Theoretical Approaches to Reading Motivation

Reading motivation has been approached from various perspectives and dimensions. Gambrell (2011) defines it as "the likelihood of engaging in reading or choosing to read" (p. 172). Factors such as students' dispositions to read material of their own choice, the amount of time readers devote to this activity, and even the willingness to read over other leisure time activities have to do with this sort of engagement.

According to Ryan and Deci (2000), "intrinsic motivation refers to engagement in an activity that is based on personal interest in the activity itself" (cited in Clark and Rumbold 2006, p.18). A considerable number of studies have related intrinsic reading motivation to greater reading frequency and greater breadth of reading

(Hidi 2000), greater reading enjoyment (Cox and Guthrie 2001; Wang and Guthrie 2004), greater retention of key information (Guthrie et al. 1998), and greater persistence in coping with difficulties, mastering the required skills, and becoming self-determined in reading tasks (Ryan 1981). As evidence shows, intrinsic motivation may benefit readers in different ways, particularly regarding reading comprehension. Motivated readers give a special value to reading; they feel curiosity to learn more about a specific topic and they are also capable of assimilating complex ideas from a text. On the other hand, "extrinsic motivation involves engagement in an activity in response to external values and demands" (Ryan and Deci 2000, as cited in Clark and Rumbold 2006, p. 18). Wang and Guthrie's research (2004), shows that "children who were intrinsically motivated, read fiction at least once a week. By contrast, extrinsic motivation was negatively associated with reading for pleasure, thus suggesting that children who read for the outcomes of reading are less likely to get enjoyment from books" (Wang and Guthrie 2004, p.19).

Although intrinsic reading motivation has been associated with reading ability in several studies (e.g., Schaffner and Schiefele 2008; Taboada et al. 2009; Wang and Guthrie 2004), Schiefele et al. (2012) have argued that there is not enough knowledge about how the relationship between the two constructs works. Schaffner et al. (2016) established that the relationship between intrinsic motivation and reading ability was strongly dependent on students' academic ability at school, at least for students in Grades 5 and 6. Students who were part of an academic track group exhibited a much stronger relationship between intrinsic reading motivation and reading achievement than those who were not academically oriented. Such relationship may be mediated by factors such as reading amount (Schiefele et al. 2012), the extent to which a text may challenge a student's ability (Kim 2007), and even reading activities that teachers require students to do.

Expectancy-value theory also has a long history of research, particularly in relation to achievement. Atkinson's early work (1957, 1964) lay the ground for modern expectancy-value models that look at connections between achievement, persistence, and choice, but have also extended into both the predictive value that these constructs have over a person's performance, and into the role that developmental, cultural, and contextual aspects play in these models (Eccles and Wigfield 2002; Unrau and Schlackman 2006). Finally, Gambrell et al. (1996, 2013) designed and validated the *Motivation to Read Survey* using expectancy-value theory to examine the ways in which students perceive themselves in relation to reading.

In the current study, we use expectancy-value theory, drawing initially from the work of Eccles (1983), and Eccles and Wigfield (2002). Within this framework, self-perceived competence and task value are the two drivers that determine a person's choice, dedication, effort, and persistence to carry out an activity (Wigfield and Eccles 2000). Expectancy-value theory is linked to intrinsic motivation because an individual's beliefs about his or her own ability to do something, as well as the value they assign to a particular activity, are usually driven by personal interest. In line with what Deci and Ryan (1985) argued, intrinsically motivated individuals do things out of personal interest and enjoyment and thus see themselves as capable of doing things well. In the case of reading, students who perceive themselves as pro-

ficient readers, and who see reading as a useful, valuable activity, tend to be more motivated readers, read more, and tend to do better at reading. Moreover, some researchers argue that without intrinsic motivation, it would be difficult for a child to choose to read for pleasure and as a life-long habit (Unrau and Schlackman 2006; Deci et al. 2001; Guthrie et al. 1999). Evidence from numerous studies (e.g., Bong 2001; Durik et al. 2006; Xian et al. 2004) support the notion that a person's expectations of succeeding in a given task and the achievement values are predictors of how well they perform academically (Wigfield and Cambria 2010). The predictive value of success expectancy over reading achievement is also well-documented in the literature (e.g., Mucherah and Ambrose-Stahl 2014).

### *7.2.1 Reading Motivation and Achievement: Gender Similarities and Differences*

Overall, motivation and academic achievement have been found to have a reciprocal and bidirectional relationship (Wigfield and Cambria 2010). Research has also asserted that the magnitude of this relationship differs among males and females, as well as across different ages (Topping 2010; Clark and Osborne 2008). Girls, who show more interest in reading, also perform better in different reading tasks, and the relationship between reading motivation and engagement decreases, as students grow older. Surveys about adolescents' reading habits among OECD countries showed that, even for countries with high performance reading levels, such as Finland, Korea, or Singapore, there have been important drops in the percentage of students who choose reading as a leisure activity, and it is among boys where the decline in reading interest is more abrupt (Brozo et al. 2007). Data analyses from earlier PISA assessments had shown that across all OECD countries, females have more positive attitudes towards reading, spend more time reading for pleasure, and have higher reading achievement levels than boys (Kirsch et al. 2002). In countries like Japan and Finland, where reading performance across genders is significantly stronger than in other nations, the correlation between motivation and achievement was higher, and wherever boys exhibited higher levels of engagement than girls, they outperformed girls with low engagement and high reading ability. Similarly, Chilean adolescent females perform at significantly higher levels in reading assessments than males (OECD 2010).

Gender differences in verbal ability may explain, in part, the differences in reading performance of boys and girls, but there are also contextual, cultural (stereotypical), and age factors that mediate these differences (Reilly 2012). In the case of reading, evidence has pointed out to the overrepresentation of reading difficulties among boys. These difficulties have been associated with lack of motivation to read and lower levels of reading achievement (Riegle-Crumb 2005). When boys perceive themselves as having low-level ability in reading, they tend to avoid reading and show less interest in books. Fewer opportunities to read, in turn, prevent them from

improving their competence in reading. On the other hand, the stereotypical view of reading as a more feminine activity is strongly established in the Western culture, to the point that research has shown that parents spend over 100 more hours reading to their daughters than they do to their sons (Baker and Mulligan 2013). Because attitudes towards reading develop early, experiences with books matter and shape students' interests to a large extent (Merisuo-Storm 2006). Overwhelmingly, and across nations, the gender gaps in reading are large and favor girls (Reilly 2012), and in countries where both boys and girls typically show high levels of reading achievement, girls also exhibit higher levels of performance and motivation. In recent years, however, the shift towards digital or online reading may cause the gap to narrow. One study showed that there were no statistically significant differences in online reading engagement for adolescent boys and girls across OECD countries, although girls performed better than boys in reading tasks (Wu 2014).

### *7.2.2 Reading Motivation and Achievement Among Chilean Elementary Students*

Assessment of reading achievement at the national and international levels has demonstrated that Chilean students have considerably improved their reading competence in the last decade. The TERCE Study, which assesses reading abilities of third and sixth-grade students from Latin America and the Caribbean every seven years, shows that Chilean students rank first among their Latin American peers, and PISA scores since 2012 have also placed Chile ahead of these countries (Agencia de Calidad de la Educación 2012; Simce 2010). However, the performance of Chilean teenagers in the global spectrum is still lower than the OECD average, and lower than the levels of countries with similar economies (Simce 2011; Agencia de Calidad en Educación 2014). More than one-third of Chilean third and sixth-graders do not perform at the minimum expected levels of functional literacy. Similarly, and across grade levels, there are increasingly large achievement gaps among students coming from different socioeconomic backgrounds, and these differences can be observed as early as second or third grade (Agencia de Calidad en Educación 2015).

Although socioeconomic factors explain, to a great extent, the differences in reading performance, student factors such as leisure reading on a daily basis and intrinsic reading motivation also have to do with students' ability to better comprehend texts (CIAE 2012; Clark and Rumbold 2006). Cox and Guthrie (2001) found that motivation is directly related to reading for pleasure in a more significant way than other factors such as cognitive strategy use. If students read only for school purposes they will probably use cognitive strategies to understand the text instead of feeling motivated to read it because they value it. Reading for pleasure is related to a personal/intrinsic motivation in which the individual has a positive attitude towards reading that reinforces the students' interest in reading.

Studies from 2004 and 2005 about reading habits in Chile reveal that only 40% of the population had read a book in the previous year (Consejo Nacional de la Cultura y las Artes 2011). A study by Valenzuela et al. (2015), using PISA 2000–2009 data for reading achievement and engagement, revealed that attitudinal factors explain up to 25% of the variance in reading performance within socioeconomically segregated schools. Across Latin America, the countries with the highest reading achievement scores are Chile and Costa Rica; and both countries have shown similar gender gaps in reading motivation (Agencia de Calidad de la Educación 2015). In fact, attitude towards reading had an important impact on reading performance throughout the decade. Previous studies (e.g. Rivera and Riveri 2011; Gambrell et al. 2013) had observed significant correlations between gender and positive reading attitudes at different grade levels, all of which showed a favorable bias towards girls.

In sum, Chilean students, across different grade levels are still performing at low levels of functional literacy, despite the fact that some improvement has been observed in the past decade, and which, according to some studies (e.g. Valenzuela et al. 2015; Simce 2013) may be attributed to changes in attitudinal factors such as reading engagement. On the other hand, the Chilean population has consistently demonstrated a lack of interest in reading as a leisure activity across ages and socioeconomic background (Fundación la Fuente 2010; Consejo Nacional de la Cultura y las Artes 2011). Few studies have explored the relationship between reading achievement and motivation from a gender perspective at the elementary school level in Chile, despite the fact that the gender gap is so strong and widens as children exit the school system (TERCE 2013; Simce 2013).

### *7.2.3 Research About Reading Achievement and Motivation Trajectories*

A substantial body of research has shown that both reading and academic motivation tend to decline in the upper school grades (Gottfried et al. 2001), and some have indicated that this decline may begin in the earlier grades (Eccles and Wigfield 2002). This decrease in motivation appears to be linked to students' valuing of academic tasks, achievement and effort, which tend to diminish as they grow older, and as the stress on evaluation increases (Wigfield and Eccles 2002; Wigfield and Cambria 2010). Schiefele (2009) asserts that, although younger children seem to have more generalized interests in academic matters, as they grow up and compare their performance with their peers, they become more aware of their perceived abilities. Consequently, they tend to focus their interest mainly on those academic areas where they seem to have higher levels of self-concept.

## 7.3 The Study

We used an exploratory and correlational design to address the following research questions: (1) How do students' reading achievement, readers' self-concept, and value of reading change across the school year?, and (2) Is the evolution of these variables across the school year similar or different for boys and girls, and do they differ in third, fourth, and fifth grade?

A total of 1290 Chilean elementary school students participated in this study. Students were enrolled in nine schools from a large urban district. There were 440 students in third grade, 455 in fourth grade, and 405 students in fifth grade. Fifty-eight percent (758) of the participants were male, and 52% came from mid- and low- socioeconomic households. Of the 9 schools, 5 were private, serving high socioeconomic-status children, and four were either public or subsidized, serving mid and low SES students. Participants were assessed using *Dialect*, a reading comprehension assessment (Orellana et al. 2015), and completed the *Motivation to Read Survey* (Gambrell et al. 1996) at the beginning and end of the school year. *Dialect* is a 45-item silent comprehension reading assessment that students take online, and it is associated to the Lexile Framework for Reading. The *Motivation to Read Survey* is a 20-item assessment tool where students must respond to assertions about their reading attitudes on a Likert scale. The survey comprises 10 items related to readers' self-concept and 10 items that address value of reading. Data produced the following variables for each of the two time periods: Gender, Grade, Socioeconomic Status, Reading Comprehension, Reader Self-Concept, and Value of Reading. We examined and compared the beginning and end-of-year results using descriptive, correlational, and analysis of variance procedures to examine the changes and correlations of the variables of interest across the school year and across the different grade levels. We also examined these variables from a socioeconomic perspective by comparing results across the different types of schools, in order to better understand the development of reading achievement and motivation by gender and across schools serving children from more and less privileged backgrounds. Finally, we regressed the motivational constructs scores of the first semester on end-of-year reading achievement scores to further explore the motivation-achievement relationship, and determine whether motivation would predict reading achievement at the end of the school year.

## 7.4 Results and Discussion

In this section, we discuss the results by addressing the two research questions that guide the study separately. First, we analyze how students' reading achievement, readers' self-concept, and value of reading change across the school year. In the second section, we look into potential gender differences in the evolution of their reading motivation and achievement across two time periods. Finally, we discuss

the results pertaining the predictability of motivation constructs on end-of-year reading achievement.

### 7.4.1 How Do Students' Reading Achievement, Readers' Self-Concept, and Value of Reading Change Across the School Year?

Table 7.1 displays the mean, range, and standard deviation values for each of the variables of interest, for all participants and for the two time periods of assessment. In terms of reading ability, results show that, on average, students improve their reading achievement scores from the beginning to the end of the year, and that students in the older grades perform better than those in the younger grades at the end of the year. Growth is fairly similar across all grade levels; however, there were statistically significant differences across grade levels at the beginning of the study: $F(2, 1287) = 22.72$, $p = 0.000$. For motivation variables, third and fourth-grade students showed a slight decrease in their reader's self-concept at the end of the school year, whereas fifth grade students maintained their mean score. At the beginning of the year there were no statistically significant differences across grade levels for the self-concept scores. For value of reading, all groups showed lower mean scores at the end of the year, but the magnitude of the decrease varied from one group to the other, with the greatest drop occurring in fourth grade. The differences in value of reading among the three groups were statistically significant at the beginning of the school year: $F(2, 1249) = 7.755$, $p = 0.000$.

Post-test analyses revealed that there were statistically significant differences between all three groups for reading comprehension, $F(2, 1289) = 5.558$, $p = 0.004$

**Table 7.1.** Descriptives

| | M | (SD) | Min | Max | M | (SD) | Min | Max |
|---|---|---|---|---|---|---|---|---|
| Variable | Beginning of school year | | | | End of year | | | |
| Reading Ability (% correct) | | | | | | | | |
| Third | 69.5 | 18.0 | 22 | 100 | 79.7 | 22 | 0 | 100 |
| Fourth | 64.5 | 17.9 | 13.3 | 100 | 72.9 | 19.4 | 0 | 97 |
| Fifth | 72.5 | 14.8 | 8.9 | 97.8 | 81.4 | 15.6 | 0 | 100 |
| Self-Concept | | | | | | | | |
| Third | 29.3 | 5.6 | 2 | 40 | 28.8 | 4.93 | 12 | 40 |
| Fourth | 28.8 | 4.7 | 14 | 40 | 28.4 | 4.9 | 12 | 39 |
| Fifth | 28.6 | 4.5 | 9 | 40 | 28.8 | 4.6 | 0 | 40 |
| Value of Reading | | | | | | | | |
| Third | 30.0 | 5.9 | 0 | 40 | 29.1 | 5.4 | 4 | 40 |
| Fourth | 28.8 | 5.4 | 11 | 40 | 26.9 | 6.0 | 5 | 40 |
| Fifth | 28.4 | 5.3 | 6 | 40 | 26.7 | 5.7 | 0 | 40 |

and value of reading, F (2, 1289) = 19.562, p = 0.000. No statistically significant differences were found for readers' self-concept at the end of the school year.

When looking at scores by school type, there was an increase in students' comprehension scores for all grade levels across school type, with the exception of fourth-grade municipal school students, who dropped their scores by 0.5 points. The range of increment in scores was 2–7.3 and the mean gain was 3.4. For self-concept as a reader, only third-grade students in municipal schools showed an increase of 3 points in their scores at the end of the school year. Third-grade private school students' scores remained the same. On average, the drop in mean scores was 0.8. For value of reading, third grade students from municipal schools were again the only ones to improve their mean scores, with a gain of 3.2 points. All other groups had lower mean scores at the end of the year. The mean drop in scores for value of reading was 1.7 points.

Analyses of variance revealed that there were statistically significant differences across groups from different school types for all variables in Grade 3. These differences by school type are consistent with those reported in national and international standardized reading assessments (e.g., Simce, SERCE, TERCE, PISA). In Grade 4 statistically significant differences were found for all variables, except for value of reading (beginning and end of year), and in fifth grade, no statistically significant differences were found among students from different school types for value of reading and reading comprehension at the end of the school year.

### *7.4.2 Are the Trajectories of these Variables Across the School Year Similar or Different for Boys and Girls, and Do They Differ in Third, Fourth, and Fifth Grade?*

Table 7.2 presents mean scores for achievement and motivation for boys and girls across the three variables of interest. With regards to reading ability, fourth-grade girls made the greatest gains at the end of the year, increasing their comprehension scores by 10.1 percent points, followed by fifth-grade girls who made 9.3 percent points in gains. Lowest gains were found for fourth-grade boys with a 5.4 percent-point increase. For readers' self-concept boys across all grade levels decreased their scores at the end of the school year, with 0.1 being the lowest drop and 0.9 being the largest drop. Fourth-grade students had the largest drop. Girls, on the other hand, increased their self-concept as readers at the end of the school year in fifth grade, and maintained their score in fourth grade. Third-grade scores for self-concept dropped in almost 1 point for girls. Finally, for value of reading, both groups showed a decrease in their mean scores towards the end of the year. The magnitude of the drop was larger for fifth-grade girls (0.21) and lowest among third-grade boys (0.4).

Analyses of variance were conducted to determine whether there were statistically significant differences between boys and girls for each of the variables of interest. Results show that differences between boys and girls in third grade are

**Table 7.2** Descriptives by Gender and Grade

| | Reading Ability1 | | Self-Concept1 | | Value1 | | Reading Ability2 | | Self-Concept3 | | Value2 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | M(SD) | | M(SD) | | M(SD) | | M(SD) | | M(SD) | | M(SD) | |
| Gender | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max |
| Boys | | | | | | | | | | | | |
| Third | 67.0 | | 28.9 | | 28.7 | | 75.0 | | 28.7 | | 28.3 | |
| | (18.0) | | (5.7) | | (6.3) | | (22.3) | | (4.7) | | (5.4) | |
| | 18.0 | 100.0 | 1.0 | 40.0 | 0.0 | 40.0 | 0.0 | 100.0 | 13.0 | 40.0 | 4.0 | 40.0 |
| Fourth | 63.1 | | 28.2 | | 27.7 | | 68.5 | | 27.5 | | 25.9 | |
| | (17.9) | | (4.5) | | (5.5) | | (20.2) | | (4.7) | | (5.6) | |
| | 13.0 | 100.0 | 14.0 | 39.0 | 11.0 | 40.0 | 0.0 | 97.8 | 12.0 | 28.0 | 5.0 | 39.0 |
| Fifth | 72.3 | | 28.3 | | 27.8 | | 78.8 | | 28.1 | | 26.4 | |
| | (15.0) | | (4.6) | | (5.2) | | (17.1) | | (4.5) | | (5.1) | |
| | 8.9 | 100.0 | 9.0 | 39.0 | 6.0 | 40.0 | 0.0 | 100.0 | 14.0 | 40.0 | 12.0 | 40.0 |
| Girls | | | | | | | | | | | | |
| Third | 72.8 | | 29.8 | | 31.3 | | 79.1 | | 28.9 | | 30.0 | |
| | (17.5) | | (5.4) | | (5.5) | | (21.9) | | (5.2) | | (5.4) | |
| | 16.0 | 45.0 | 4.0 | 40.0 | 3.0 | 40.0 | 0.0 | 100.0 | 12.0 | 40.0 | 7.0 | 40.0 |
| Fourth | 66.5 | | 29.6 | | 30.0 | | 76.6 | | 29.6 | | 28.3 | |
| | (17.7) | | (4.7) | | (4.9) | | (16.4) | | (4.8) | | (6.3) | |
| | 16.0 | 98.0 | 10.0 | 34.0 | 17.0 | 39.0 | 0.0 | 97.8 | 17.0 | 39.0 | 10.0 | 40.0 |
| Fifth | 72.8 | | 29.2 | | 29.3 | | 82.1 | | 29.4 | | 27.2 | |
| | (14.5) | | (4.3) | | (5.4) | | (13.6) | | (4.7) | | (6.5) | |
| | 27.0 | 98.0 | 16.0 | 40.0 | 15.0 | 40.0 | 15.0 | 40.0 | 0.0 | 39.0 | 0.0 | 40.0 |

significant for reading achievement both at the beginning and end of the school year: $F(1,437) = 9.681$, $p = 0.002$ and $F(1, 381) = 6.536$, $p = 0.011$ respectively. For readers' self-concept, the differences were not significant. Finally, for the value of reading results showed significant differences between boys and girls at both time periods: $F(1, 414) = 17.564$, $p = 0.000$ and $F(1, 387) = 8.919$ respectively. In fourth grade, scores differed significantly by gender for all measures with the exception of reading achievement at the beginning of the study. Finally, in fifth grade there were statistically significant differences for readers' self-concept at the beginning and end of the school year: $F(1,397) = 4.148$, $p = 0.042$ and $F(1,352) = 6.857$, $p = 0.009$, as well as for value of reading at the beginning of the year: $F(1, 397) = 8.036$, $p = 0.005$, but not at the end of the year. No significant differences were found for reading achievement.

Correlational analyses showed that, as expected, the scores for self-concept and value of reading—the two constructs associated with reading motivation—showed high positive correlations across grade levels, gender, and time of assessment. The largest significant correlations between self-concept and value of reading were found for third-grade boys and girls at the beginning of the school year (0.674** and 0.663** respectively). The smallest correlations were found for girls in fourth

grade by the end of the year (0.404**). Overall, the correlations for these two constructs of reading motivation decreased towards the end of the year.

With regard to reading achievement and reading motivation, correlations vary significantly across gender, grade level and time of assessment. A negative correlation between value of reading and reading achievement was found for fourth-grade girls, whereas the highest correlation between value of reading and achievement was found among third-grade girls at the beginning and end of the school year. For readers' self-concept and achievement, the highest correlations were found among fourth-grade boys at the end of the school year, at 0.471**. Finally, for fifth-grade boys, correlations between reading achievement and self-concept were higher at the beginning of the school year (0.407**) than at the end of the year. Self-concept and value of reading correlated at higher levels (0.520**) at the beginning as well. For girls, self-concept and value of reading correlated at 0.603** at the end of the year. We also observed higher significant correlations between achievement and self-concept among fifth grade girls at the beginning and end of the school year.

ANOVA tests revealed that across grade levels, reading achievement scores for boys and girls differed significantly across school types, a finding that is in line with what most research about reading proficiency in Chile has consistently observed, and which is attributable to the equity differences among the different school types (OECD 2016). For motivation constructs, however, more differences were observed. Third grade students in general, and across school types, tend to value reading in fairly similar ways, and no significant changes are observed towards the end of the school year. Boys, on the other hand, show different self-concepts as readers at the end of third grade across different school types, a finding which may be influenced by boys becoming more aware of their proficiency as readers. Fourth grade analyses revealed that boys from public, private and subsidized schools differed significantly in their value of reading, whereas girls differed in their self-concept as readers. Finally, in fifth grade, the opposite was true of boys, where they did not differ significantly in their self-concept and girls did not differ significantly in their value of reading.

To further analyze these results, we explored the potential predictive power that each of the two motivation construct scores might have on reading achievement at the beginning of the school year and at the end of it. A multiple linear regression was calculated to predict end-of-year reading achievement based on beginning-of-year self-concept and beginning-of-year value of reading. A significant equation was found ($F(3,1066) = 12.326$, $p < 0.000$), with an $R^2$ of 0.034. Only readers' self-concept proved to be a significant predictor of reading achievement at the end of the school year, but the percent of variance explained varied as a function of sex and grade level. For third-grade boys, 27.9% of the variance was explained, for third-grade girls, only 22.8%. In fourth grade, self-concept explained 37.5% of the variance in reading achievement, whereas for girls, it only explained 26.4%. In fifth grade, self-concept explained 34.9% of the variance in boys' reading achievement, and 43.4% of the variance for girls. These results clearly indicate that readers' self-concept is the most important motivation construct for Chilean elementary students, and that its influence on boys' and girls' reading ability increases in the upper

elementary grades. Making students more aware that their strengths as readers may have a positive impact on their overall reading performance at the end of the school year. This finding has practical implications that may contribute to the improvement of reading ability among Chilean students. If teachers are aware of the role of self-concept on reading achievement, they can help construct a stronger self-image, which, in turn, may help readers be more competent. Fostering positive self-concept has to do with making reading experiences positive (Miller 2009), helping students discover their literary preferences, matching readers with the right book (Lesesne 2003), and most importantly, spending time talking about books. Oftentimes too much time is spent on strategy instruction and comprehension assessment, and there are very few instances in which teachers and students can share their reading interests.

Overall, these results show that, among Chilean elementary school children, there also appears to be a relationship between reading achievement and motivation, and that this relationship is mediated by gender, grade level, and socioeconomic background. Similar to what findings from earlier studies suggest (e.g. Gambrell et al. 1996; Marinak and Gambrell 2010; Meece et al. 2006), girls exhibit higher levels of reading ability and motivation than boys across third, fourth and fifth grade. Their motivation to read, as seen in their self-concept and value of reading is also higher than that of boys. In light of the expectancy-value theory, reading performance and motivational factors also seem to be strongly connected for Chilean elementary school children (also observed by Rivera and Riveri 2011). Our findings reveal that students with the highest reading scores were also the ones with the highest levels of motivation, both in readers' self-concept and value. At the beginning of the school year, this was the case of the students in the lower grades. At the end of the year, students with the highest reading scores were also the ones who showed higher self-concept as readers, but not the ones who valued reading more. Marinak and Gambrell (2007) had reported that third-grade boys report valuing reading less than girls, a finding that is also observed in our data. This may suggest that, while improving one's ability as a reader boosts a student's self-concept as a reader, the extent to which they value reading as a leisure time activity may not necessarily increase.

As previous studies about performance and motivation in Chile have also shown, there are significant differences in the performance and motivation values of boys and girls coming from different socioeconomic backgrounds (Rivera and Riveri 2011; SIMCE 2010, 2011; OECD 2012). The reading achievement gap matches the gap in reading motivation with a negative bias that widens in the case of boys as they progress across the elementary grades. Girls, on the other hand, tend to maintain positive self-perceptions as readers even if they value reading less as they grow older. These findings have pedagogical implications that must necessarily be addressed in order to ensure that boys can improve both their ability and interest in reading. Valenzuela et al. (2015) hold that improvement in Chilean students' reading ability as observed in PISA 2001–2009 scores can be attributed to positive changes in students' reading engagement, particularly attitudes toward reading, book access, and time for leisurely reading. With regard to reading strategies and

their impact on reading scores, the problem does not appear to lie in the lack of strategy use on the part of students, but rather on how these strategies are utilized in the classroom to boost reading achievement. Although PISA scores refer to older students, the factors that explain improvement in reading and its correlation with motivation may also be applicable to the earlier grades. If engagement increases as a result of having more books in the classroom and providing elementary students with more time to read, we may see similar positive trends in reading achievement in those grade levels as well. Book choice and book access are positively related, but gender-based preferences must be taken into account to provide thematic, complexity, and genre variety (Gambrell 2011).

Gender differences in time devoted to reading is also contingent on reading preferences, with girls devoting more time to narrative fiction than boys (Coles and Hall 2002; Hughes-Hassell and Rodge 2007). Most schools in Chile do not include weekly time periods for either sustained silent reading, or library visits, and read alouds are often finalized when children enter first grade. Studies (e.g., Eyzaguirre and Fontaine 2008) have also demonstrated that, once children have learned to decode, comprehension instruction declines and is mainly centered on comprehension assessment rather than strategy instruction.

Similarly, because our findings reveal a strong connection between self-concept and reading achievement, reinforcing male students' self-perceptions as readers should be an important objective in elementary school. Because the majority of elementary school teachers are females, boys seldom encounter male reading models to share their reading experiences, talk about books, or ask for author suggestions. Research has also shown that boys respond to instructional tasks better when activities are time-limited, broken down and varied (Wilson 2003). Competition, concreteness and feedback are also instructional aspects that facilitate boys' task engagement, and which are applicable to book reading instruction.

## 7.5 Conclusion

In the current chapter, we analyzed reading achievement and motivation and their correlations for Chilean third, fourth, and fifth grade students at two time periods during the school year. Results showed that greatest gains in reading achievement are made by third-grade boys, but overall girls perform better than boys in reading across all grade levels and at both time periods. Similarly, girls exhibit higher levels of self-concept and value of reading than boys across grade levels and at both time periods. However, the evolutions of these trajectories, as well as the magnitude of achievement growth and motivation decrease, seem to vary by gender and grade level. On the other hand, self-concept was found to be a considerable predictor of reading achievement at the end of the school year, both for boys and for girls. The magnitude of this predictor's influence increases in the upper elementary grades, and thus should be considered as a mediator than can increase students' overall reading achievement.

These findings imply that motivational aspects of reading correlate differently with reading achievement at different grade levels and time periods, and should therefore be addressed from a pedagogical perspective in different ways. In the case of boys, because reading achievement is so strongly connected with self-concept as readers, strengthening boys' perceptions of their own capability as readers seems crucial. Girls, on the other hand, seem to devalue reading as they grow older. Efforts must be placed to instill the love for reading in both boys and girls because of its impact on comprehension and academic achievement.

## References

Agencia de Calidad de la Educación. (2012). Resultados PISA 2012 Chile. Retrieved from http://s3-us-west-2.amazonaws.com/documentos-web/Informes/Resultados+PISA+2012+Chile.pdf.

Agencia de Calidad de la Educación. (2014). Avance de resultados tercer estudio regional comparativo y explicativo. Retrieved from http://s3.amazonaws.com/archivos.agenciaeducacion.cl/TERCE_2013_avance_de_resultados.pdf.

Agencia de Calidad de la Educación. (2015). Presentación entrega de resultados aprendizaje 2014. Simce e indicadores de desarrollo personal y social. Retrieved from http://archivos.agenciaeducacion.cl/resultados-2014/Presentacion_Entrega_Resultados_2014.pdf.

Baker, M., & Mulligan, K. (2013). Boy-girl differences in parental time investments: Evidence from three countries. *National Bureau of Economic Research*. Working paper no. 18893. Cambridge.

Bong, M. (2001). Role of self-efficacy and task value in predicting college students' course enrollment and intentions. *Contemporary Educational Psychology, 26*, 553–570.

Brozo, W. G., Shiel, G., & Topping, K. (2007). Engagement in reading: Lessons learned from three PISA countries. *Journal of Adolescent & Adult Literacy, 51*(4), 304–315.

Canadian Council on Learning. (2009). *Lessons in learning: Why boys don't like to read – gender differences in reading achievement*. Canadian Council on Learning. Retrieved from http://files.eric.ed.gov/fulltext/ED519285.pdf

Chiu, M. M., & McBride-Chang, C. (2006). Gender, context, and reading: A comparison of students in 43 countries. *Scientific Studies of Reading, 10*(4), 331–362.

CIAE. (2012). *The role of reading engagement in PISA 2001–2009 reading achievement improvement in Chile*. Documento de trabajo n° 2, Octubre 2012.

Clark, C., & Osborne, S. (2008). How does age relate to pupils' perceptions of themselves as readers? The National Literacy Trust. Retrieved from http://www.literacytrust.org.uk/assets/0000/0557/Being_a_reader_age_2008.pdf

Clark, C., & Rumbold, K. (2006). Reading for pleasure. A research overview. *National Literacy Trust.* Retrieved form http://pennykittle.net/uploads/images/PDFs/ Reports/Reading_pleasure_2006.pdf.

Coles, M., & Hall, C. (2002). Gendered reading: Learning from children's reading choices. *Journal of Research in Reading, 25*(1), 96–108.

Consejo Nacional de la Cultura y las Artes. (2011). Estudio sobre el comportamiento lector a nivel nacional. Centro de Microdatos, Universidad de Chile. Retrieved from http://www.cultura.gob.cl/wp-content/uploads/2013/04/Estudio-Comportamiento-Lector.pdf.

Cox, K. E., & Guthrie, J. T. (2001). Motivational and cognitive contributions to students' amount of reading. *Contemporary Educational Psychology, 26*, 116–131.

Cunningham, A. E., & Stanovich, K. E. (1997). Early reading acquisition and its relation to reading experience and ability 10 years later. *Developmental Psychology, 33*(6), 934–945.

Deci, E. L., & Ryan, R. M. (1985). *Intrinsic motivation and self-determination in human behavior*. New York: Plenum Press.

Deci, E. L., Koestner, R., & Ryan, R. M. (2001). Extrinsic rewards and intrinsic motivation in education: Reconsidered once again. *Review of Educational Research, 71*(1), 1–17.

Durik, A. M., Vida, M., & Eccles, J. S. (2006). Task values and ability beliefs as predictors of high school literacy choices: A developmental analysis. *Journal of Educational Psychology, 98*, 382–393. https://doi.org/10.1037/0022-0663.98.2.382.

Eccles, J. S. (1983). Expectancies, values, and academic behaviors. In J. T. Spence (Ed.), *Achievement and achievement motivation* (pp. 75–146). Freeman: San Francisco.

Eccles, J. S., & Wigfield, A. (2002). Motivational beliefs, values and goals. *Annual Review of Psychology, 53*, 109–132.

Edmunds, K. M., & Bauserman, K. L. (2006). What teachers can learn about reading motivation through conversations with children. *The Reading Teacher, 59*(5), 414–424.

Eyzaguirre, B., & Fontaine, L. (2008). *Las escuelas que tenemos*. Santiago: Centro de Estudios Públicos.

Fundación La Fuente/Adimark GFK. (2010). *Chile y los libros*. Santiago: Fundación La Fuente.

Gambrell, L. B. (2011). Motivation in the school reading curriculum. In T. V. Rasinski (Ed.), *Developing reading instruction that works* (pp. 41–65). Bloomington: Solution Tree.

Gambrell, L. B. (1996). Creating classroom cultures that foster reading motivation. *The Reading Teacher, 50*(1), 14–25.

Gambrell, L. B., Palmer, B. M., Codling, R. M., & Mazzoni, S. A. (1996). Assessing motivation to read. *The Reading Teacher, 49*(7), 518–533.

Gambrell, L., Korkeamäki, R., Korkeamäki, R., Tafa, E., Orellana, P., Melo, C., McCrea Andrews, H., & Massey, C. (2013*) A cross-cultural exploration of early reading motivation*. 18th European conference on reading, Jönkoping, Sweden.

Gottfried, A. E., Fleming, J. S., & Gottfried, A. W. (2001). Continuity of academic intrinsic motivation from childhood through late adolescence: A longitudinal study. *Journal of Educational Psychology, 93*, 3–13.

Guthrie, J. T., & Wigfield, A. (2000). Engagement and motivation in reading. In M. L. Kamil, P. B. Mosenthal, P. D. Pearson, & R. Barr (Eds.), *Handbook of reading research* (3rd ed., pp. 403–422). New York: Longman.

Guthrie, J. T., & Davis, M. H. (2003). Motivating struggling readers in middle school through an engagement model of classroom practice. *Reading & Writing Quarterly, 19*, 59–85.

Guthrie, J. T., Wigfield, A., Metsala, J. L., & Cox, K. E. (1999). Motivational and cognitive predictors of text comprehension and reading amount. *Scientific Studies of Reading, 3*, 199–205.

Guthrie, J. T., Wigfield, A., & VonSecker, C. (2000a). Effects of integrated instruction on motivation and strategy use in reading. *Journal of Educational Psychology, 29*, 331–341.

Guthrie, J. T., Wigfield, A., VonSecker, C. V., & Alban, T. (2000b). Contributions of instructional practices to reading achievement in a statewide improvement plan. *The Journal of Educational Research, 93*(4), 211–225.

Guthrie, J. T., Van Meter, P., Hancock, G. R., McCann, A., Anderson, E., & Alao, S. (1998). Does concept-oriented reading instruction increase strategy use and conceptual learning from text? *Journal of Educational Psychology, 90*, 261–278.

Guthrie, J. T., Wigfield, A., Humenick, N. M., Perencevich, K. C., Taboada, A., & Barbosa, P. (2006). Influences of stimulating tasks on reading motivation and comprehension. *The Journal of Educational Research, 99*(4), 232–245.

Hidi, S. (2000). An interest researcher's perspective: The effects of intrinsic and extrinsic factors on motivation. In C. Sansone & J. M. Harackiewicz (Eds.), *Intrinsic and extrinsic motivation: The search for optimal motivation and performance* (pp. 311–342). San Diego: Academic Press.

Hiebert, E. H. (2009). *Reading more, reading better*. New York: Guilford Press.

Hughes-Hassell, S., & Rodge, P. (2007). The leisure reading habits of urban adolescents. *Journal of Adolescent & Adult Literacy, 51*(1), 22–33.

Juel, C. (1988). Learning to read and write: A longitudinal study of 54 children from first through fourth grades. *Journal of Educational Psychology, 80*(4), 437–447.
Kim, J. S. (2007). The effects of a voluntary summer reading intervention on reading activities and reading achievement. *Journal of Educational Psychology, 99*, 505–515.
Kirsch, I., de Jong, J., Lafontaine, D., McQueen, J., Mendelovits, J., & Monseur, C. (2002). *Reading for change: Performance and engagement across countries*. Paris: Organisation for Economic Co-operation and Development.
Lepola, J., Vauras, J., & Mäki, H. (2000). Gender differences in the development of academic self-concept of attainment from the 2nd to the 6th grade: Relations with achievement and perceived motivational orientation. *Journal of Hellenic Psychological Society, 7*, 290–308.
Lesesne, T. (2003). *Making the match: The right book for the right reader at the right time, grades 4–12*. Portland: Stenhouse.
Logan, S., & Johnston, R. (2009). Gender differences in reading ability and attitudes: Examining where these differences lie. *Journal of Research in Reading, 32*(2), 199–214.
Marinak, B. A., & Gambrell, L. B. (2010). Reading motivation: Exploring the gender gap. *Literacy Research and Instruction, 49*(2), 129–141.
Marinak, B. A., & Gambrell, L. B. (2007). Insights about third-grade children's motivation to read. *College Reading Association Yearbook, 28*, 54–65. Retrieved from http://web.ebscohost.com.pluma.sjfc.edu/ehost/pdfviewer/pdfviewer?sid=6fe22fd8-717b-4148-9dc9-c26038212d62%40sessionmgr104&vid=20&hid=108.
Malloy, J. A., Marinak, B. A., Gambrell, L. B., & Mazzoni, S. A. (2013). Assessing motivation to read. *The Reading Teacher, 67*(4), 273–282. https://doi.org/10.1002/trtr.1215.
McKenna, M. C., Kear, D. J., & Ellsworth, R. A. (1995). Children's attitudes toward reading: A national survey. *Reading Research Quarterly, 30*(4), 934–956.
Meece, J. L., Glienke, B. B., & Burg, S. (2006). Gender and motivation. *Journal of School Psychology, 44*(5), 351–373.
Merisuo-Storm, T. (2006). Girls and boys like to read and write different texts. *Scandinavian Journal of Educational Research, 50*(2), 111–125.
Miller, D. (2009). *The book whisperer. Awakening the inner reader in every child*. San Francisco: Jossey Bass.
Mucherah, W., & Ambrose-Stahl, D. (2014). Relation of reading motivation to reading achievement in seventh-grade students from Kenya and the United States. *International Perspectives in Psychology: Research, Practice, Consultation, 3*(3), 154–166. https://doi.org/10.1037/ipp0000012.
Muter, V., Hulme, C., Snowling, M. J., & Stevenson, J. (2004). Phonemes, rimes, vocabulary, and grammatical skills as foundations of early reading development: Evidence from a longitudinal study. *Developmental Psychology, 40*(5), 665–681.
OECD. (2010). *PISA 2009 Results*. PISA: OECD Publishing.
OECD. (2012). *PISA 2009 technical report*. PISA: OECD Publishing.
OECD. (2016). *Low performing students: Why they fall behind and how to help them succeed*. PISA: OECD Publishing. http://dx.doi.org/. https://doi.org/10.1787/9789264250246-en.
Orellana, P., Melo, C., & Fitzgerald, J. (2015). *Plataforma tecnológica para el diagnóstico temprano de habilidades de lectura en niños chilenos de Kinder a Cuarto Básico. VI Jornadas Académicas de Educación*. Buenos Aires: Universidad Austral.
Pecjak, S., & Peklaj, C. (2006). Dimensions of reading motivation and reading achievement in 3rd and 7th grade students. *Studia Psychologica, 48*, 11–30.
Reilly, D. (2012). Gender, culture, and sex-typed cognitive abilities. *PLoS One, 7*(7), 1–16. https://doi.org/10.1371/journal.pone.0039904.
Riegle-Crumb, C. (2005). The cross-national context of the gender gap in math and science. In L. Hedges & B. Schneider (Eds.), *The social organization of schooling* (pp. 227–243). New York: Russell Sage Foundation.
Rivera, L., & Riveri, V. (2011). *Diagnósticos del estado de la lectura en Chile. Encuesta de Comportamiento Lector a Nivel Nacional.* Centro de Microdatos, Universidad de Chile.

Rosen, M. (2001). Gender differences in reading performance on documents across countries. *Reading and Writing: An Interdisciplinary Journal, 14*, 1–38.

Rutter, M., Caspi, A., Fergusson, D., Horwood, L. J., Goodman, R., Maughan, B., Moffitt, T. E., Meltzer, H., & Carroll, J. (2004). Sex differences in developmental reading disability: New findings from 4 epidemiological studies. *JAMA, 291*(16), 2007–2012. https://doi.org/10.1001/jama.291.16.2007.

Ryan, R. M. (1981). Control and information in the intrapersonal sphere: An extension of cognitive evaluation theory. *Journal of Personality and Social Psychology, 43*, 450–461.

Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist, 55*, 68–78.

Schaffner, E., & Schefele, U. (2008). Familiare und individuelle bedingungen des textlernens [familial and individual conditions of text learning]. *Psychologie in Erziehung und Unterricht, 55*, 238–252.

Schaffner, E., Philipp, M., & Schiefele, U. (2016). Reciprocal effects between intrinsic reading motivation and reading competence? A cross-lagged panel model for academic track and non-academic track students. *Journal of Research in Reading, 39*(1), 19–36.

Schiefele, U. (2009). Situational and individual interest. In K. R. Wentzel & A. Wigfield (Eds.), *Handbook of motivation at school* (pp. 197–222). New York/London: Routledge.

Schiefele, U., Schaffner, E., Moller, J., & Wigfield, A. (2012). Dimensions of reading motivation and their relation to reading behavior and competence. *Reading Research Quarterly, 47*, 427–463.

SIMCE. (2010). Re*sumen de resultados PISA 2009*. Chile. Retrieved from http://www.simce.cl/fileadmin/Documentos_y_archivos_SIMCE/evaluaciones_inter/pisa_2009/Resumen_Resultados_PISA_2009_Chile.pdf.

SIMCE. (2011). Resultados nacionales prueba SIMCE 2010. Retrieved from http://www.simce.cl/index.php?id=247

SIMCE. (2013). *Resultados nacionales 2012*. Santiago: Agencia de la Calidad en Educación.

Snow, C. E., Burns, M. S., & Griffin, P. (1998). *Preventing reading difficulties in young children*. Washington, DC: National Academy Press.

Taboada, A., Tonks, S. M., Wigfield, A., & Guthrie, J. T. (2009). Effects of motivational and cognitive variables on reading comprehension. *Reading and Writing: An Interdisciplinary Journal, 22*, 85–106.

TERCE. (2013). Tercer Estudio Regional Comparativo y Explicativo. *Unesco*; *Oficina Regional para América Latina y el Caribe*. Santiago, Chile.

Topping, K. J. (2010). *What kids are reading: The book-reading habits of students in British schools*. London: Renaissance Learning UK.

Unrau, N., & Schlackman, J. (2006). Motivation and its relationship with reading achievement in an urban middle school. *The Journal of Educational Research, 100*(2), 81–101.

Valenzuela, J. P., Gómez, G., & Sotomayor, C. (2015). The role of reading engagement in improving national achievement: An analysis of Chile's 2000–2009 results. *International Journal of Educational Development, 40*, 28–39.

Wang, J. H., & Guthrie, J. T. (2004). Modeling the effects of intrinsic motivation, extrinsic motivation, amount of reading, and past reading achievement on text comprehension between U.S. and Chinese students. *Reading Research Quarterly, 39*, 162–186.

Watkins, M. W., & Coffey, D. Y. (2004). Reading motivation: Multidimensional and indeterminate. *Journal of Educational Psychology, 96*, 110–118.

Wheldal, K., & Limbrick, L. (2010). Do more boys than girls have reading problems? *Journal of Learning Disabilities, 43*(5), 418–429.

Wigfield, A., & Eccles, J. S. (Eds.). (2002). *The development of achievement motivation*. San Diego: Academic.

Wigfield, A., & Cambria, J. (2010). Students' achievement values, goal orientations, and interest: Definitions, development and relations to achieve outcomes. *Developmental Review, 30*, 1–35.

Wigfield, A., & Eccles, J. (2000). Expectancy-value theory of achievement motivation. *Contemporary Educational Psychology, 25*, 68–81.

Wilson, G. (2003). Using the National Healthy School Standard to raise boys' achievement. Department for Education and Skills, UK. Retrieved from www.standards.dfes.gov.uk/genderandachievement/nhss_boys_achievement2.pdf?version=1

Wilson, V. L., & Hughes, J. N. (2009). Who is retained in first grade? A psychosocial perspective. *Elementary School Journal, 109*(3), 251–266.

Wu, J. Y. (2014). Gender differences in online reading engagement, metacognitive strategies, navigation skills and reading literacy. *Journal of Computer Assisted Learning, 30*(3), 252–271. https://doi.org/10.1111/jcal.12054.

Xiang, P., McBride, R. E., & Bruene, A. (2004). Fourth graders' motivation in an elementary physical education running program. *Elementary School Journal, 104*, 253–266.

# Chapter 8
# A Mixed-Methods Study to Investigate Chinese Students' Reading Motivation in Taiwan


**Suhua Huang**

**Abstract** The purpose of this study was to use a triangulated mixed-methods research design to investigate factors influencing Chinese middle school students' motivation to read. A total of 88 ninth-grade students (47 boys and 41 girls) voluntarily participated by completing the Chinese Motivation for Reading Questionnaire (CMRQ). Twelve of the 88 students (six girls and six boys) were randomly selected to participate in semi-structured interviews, and three ninth-grade classes were observed over the course of one month. In addition, six teachers and five parents were selected to be interviewed. Four variables were investigated on a scale of 1 to 4. The mean score was highest for intrinsic motivation (2.84). The mean scores for the other three variables were as follows: self-efficacy, 2.73; extrinsic motivation, 2.53; and social motivation, 2.25. The qualitative findings showed evidence that personal interest and reading choice drove students' intrinsic motivation to read and enhanced confidence in reading. Unlike schools in many Western countries, Chinese middle schools in Taiwan have a hierarchical testing system, and reading for social recognition and competition appear to play a primary role in Chinese students' motivation to read. This study found that Chinese middle school students placed greater value on grades than other outcomes of academic performance.

**Keywords** Chinese middle school students · Gender difference · Social and cultural values · Reading motivation

The International Reading Association (IRA) published a position paper in 2000 stating that motivation to read is essential for school success (IRA 2000). This statement is emblematic of the growing importance of reading motivation in research and practices in the last two decades (Becker and McElvany 2010). Most educators agree that motivating students to read is one of the most important contributors to

S. Huang (✉)
Midwestern State University, Texas, USA
e-mail: suhua.huang@mwsu.edu



P. Orellana García, P. Baldwin Lind (eds.), *Reading Achievement and Motivation in Boys and Girls*, Literacy Studies 15,
https://doi.org/10.1007/978-3-319-75948-7_8

students' reading achievement and academic success (Guthrie et al. 2006; Mucherah and Yoder 2008). Middle school is an especially critical period with regard to reading achievement and academic performance (Huang 2013; Paige 2011). During this developmental period, students need to adapt to both the social and academic pressures that are required for building academic capabilities (Schunk and Pajares 2002). Research among middle school students has been dominated by studies focusing on determining the academic achievement for this age group and comparing it with high school students' academic achievement (Reed et al. 2004), but the dynamic and complex differences between classroom cultures and students' perspectives on learning and motivational process at the middle school level have been investigated less thoroughly (Huang 2013; Guthrie and Klauda 2014). For this reason, it is worthwhile to investigate what factors affect middle school students' motivation to read.

As motivation theories are rooted in Western cultures and contexts, the importance of examining these theories' applicability to different ethnic and cultural groups has been highlighted in recent years (McInerney 2008). Some research studies that have gone beyond the school setting in different cultural contexts have found that cultural values and beliefs influence students' motivation for academic achievement (Lepper et al. 2005). Relatively few studies have considered sociocultural effects on Chinese middle school students' motivation to read (Huang 2013; Lau 2009). It is important to explore motivation in Chinese middle school students' reading performance in the context of Chinese culture (e.g., cultural values, instructional methods, structure in the school environment, etc.) to discover how it affects Chinese students' motivation to read. The purpose of this study was to use mixed-research methods to investigate what factors influence Chinese middle school students' motivation to read.

## 8.1 Literature Review

As motivation plays an important role in influencing students' reading achievement, Guthrie and Wigfield developed the *Motivation for Reading Questionnaire* (MRQ) to measure various dimensions of reading motivation (Baker and Wigfield 1999; Guthrie and Wigfield 2000). The motivational constructs measured in the MRQ are grouped into four major aspects: self-efficacy, intrinsic motivation, extrinsic motivation, and social motivation. This study has drawn from the four major motivation constructs of the MRQ, as well as multiple aspects of Chinese culture as a theoretical framework to examine whether the four MRQ motivational constructs are applicable to Chinese students in Taiwan.

### 8.1.1 Self-Efficacy

The construct of self-efficacy, as proposed by Bandura (1997), deals with students' personal beliefs about their ability to succeed in different achievement tasks. Research has found that students' beliefs about their ability and efficacy to perform achievement tasks are crucial motivational mediators of achievement behavior (Eccles and Wigfield 2002; Schunk 2003). It is supposed that self-efficacy contributes to the types of goals that students set for themselves, the efforts that they will expend in performing tasks, and the amount of perseverance they will exhibit in the face of difficulties (Eccles and Wigfield 2002). Research shows that, compared to students with low self-efficacy, highly efficient students are more likely to engage in challenging activities, work harder, and persist longer when they encounter difficulties (Schunk 2003; Zimmerman 2000).

### 8.1.2 Intrinsic Motivation

The construct of intrinsic motivation refers to the enjoyment of activities or an inner desire to engage in an activity (Deci 1992). When students are intrinsically motivated, they read simply for the sake of reading, and the activity is accompanied by positive attitudes and is perceived as highly satisfying (Pintrich and Schunk 2002; Taboada et al. 2009). Many research studies have found that students who are intrinsically motivated have an inherent interest in what they read and spend more time reading than those without intrinsic motivation (Becker and McElvany 2010; Guthrie and Klauda 2014; Huang 2013; Lau 2009; Lepper et al. 2005). In a recent analysis of the dimensionality of instruction motivation based on qualitative and quantitative research, reading experts have applied different dimensions of curiosity, importance, and involvement so as to represent the construct of intrinsic motivation (Möller and Bonerad 2007; Nolen 2007; Schiefele and Schaffner 2013; Wigfield and Guthrie 1997).

### 8.1.3 Extrinsic Motivation

The construct of extrinsic motivation refers to motivation to receive external recognition or rewards (Deci 1992). Students who are more extrinsically motivated often expect to receive a reward for performing the activity, rather than finding the activity rewarding by itself (Lau 2009; Schiefele et al. 2012; Wigfield and Guthrie 1997). Extrinsically motivated students tend to adopt either "surface" or "achieving" approaches to learning (Lepper et al. 2005). A surface approach is usually considered to be associated with poor academic performance, whereas an achieving approach is associated with positive academic performance (Biggs 1995). Research

has found that students with strong extrinsic orientations may want to get by with minimal effort by using surface-learning strategies for reading, such as memorizing text or guessing the meaning of text (Guthrie and Davis 2003; Lau 2009; Lepper et al. 2005; Paige 2011). On the other hand, students who use achieving approaches tend to actively participate in classroom tasks and use a variety of achieving strategies to maximize their efforts to succeed (Biggs 1995).

### *8.1.4 Social Motivation*

Social motivation refers to the ways in which individuals' motivations relate to each other (Wentzel 2002). This kind of motivation is crucial to reading, because reading is a "social activity" within a social context (Wigfield 2000, p. 142). Reading is not simply an individual act of cognition, but it is also tied to the social activity of groups and cultural practices (Huang 2013; Wigfield 2000). An increasing amount of evidence shows that students' motivation directly affects their social and academic performance (Wigfield and Wentzel 2007). Some researchers have found that students who have positive social interaction with their peers tend to report doing well in school when compared with students who have low levels of social interaction (Baker 2000; Wigfield and Wentzel 2007). Researchers have also learned how teachers and other educators can influence students' motivation in both positive and negative ways (e.g., Perry et al. 2006; Wentzel 2002). For example, teachers who implement differentiated instructional practices can enhance students' motivation, develop positive achievement goals, and help students relate well to teachers and peers in their classroom (Wigfield and Wentzel 2007).

### *8.1.5 Cultural and Educational System Differences*

Although the acknowledgement of the importance of motivational factors in student learning outcome has been gradually growing among researchers worldwide, research has distinguished several differences between Chinese and Western cultures (Chen et al. 1995; Huang et al. 2015; Lau 2009). In some aspects and in general terms, Western culture is characterized by individualism, an emphasis on independence, and regard for oneself as unique. In contrast, Chinese culture is characterized as collective, placing emphasis on human interdependence; the individual is taught to be concerned with others' thoughts and attitudes (Hong 2001). With regard to educational issues, Chinese culture emphasizes that academic success is fundamental to achieve a satisfactory life and obtaining a respected status (Salili et al. 2001). This is also part of the Western educational system, but the Chinese attributes greater importance to the achievement of this goal.

In Taiwan, the Chinese school system and school culture have been greatly influenced by Confucian philosophy and the Confucian ethical system (Smith 2000).

The impact of this philosophy is reflected in school regulations, the long school year, and long hours of study, as well as in the emphasis on hard work, discipline, obedience, and rigorous academic standards (Lin et al. 2004). Under the influence of the hierarchical ranking system, the learning environment is highly competitive in Chinese classrooms in a variety of grade levels (Lau 2009).

## 8.2 The Present Study

The aim of the present study was to employ a triangulation mixed-methods research design to address the question: "what factors influence Chinese middle school students' motivation to read?"

### *8.2.1 Methods*

In this study, both quantitative and qualitative data were collected simultaneously but separately (Creswell 2014). Both methods were given equal weight, and analyses were conducted concurrently, although data was analyzed separately.

### *8.2.2 Setting and Participants*

The participating school is a public middle school covering grades 7 through 9, located in the center of Taiwan. The school has 10 classes per grade, and each class has approximately 30 students, with enrollment averaging about 920. The school offers a variety of after-school activities, such as book clubs, sports, arts activities, and so forth.

A total of 88 ninth grade students (47 boys and 41 girls), ages 15 and 16, participated voluntarily by completing the Chinese Motivation for Reading Questionnaire (CMRQ). Twelve of the 88 students (six girls and six boys) were randomly selected for interviews. A brief profile of the 12 interviewed students is showed in Appendix A. Three classes were randomly selected for classroom observation across different content areas over the course of one month. Teachers and parents were invited to volunteer for interview. Teachers included three men and three women, of whom two taught Chinese and two taught English; one science teacher and one social studies teacher. Parents included two fathers and three mothers. The mean of the teachers' teaching experience was 8.5 years. Out of the five parents, two were middle school teachers, two were self-employed, and one was a stay-at-home mother.

### 8.2.3 Procedures

With regard to the quantitative data, all participants were given the CMRQ at the same time. To collect the qualitative data, the researcher interviewed each selected student, teacher, and parent, in a one-on-one meeting held in a conference room at the school site. In addition, daily field notes were recorded for three classrooms over the course of one month. Confidentiality was maintained for all data.

The quantitative and qualitative data were analyzed separately. The characteristics of Chinese students' motivation to read were identified by examining the descriptive statistics from the CMRQ. These statistics were triangulated with the interview data and the observation notes to answer the research question.

### 8.2.4 Measures

The MRQ was originally developed in English by Guthrie and his colleagues (Wigfield and Guthrie 1997; Baker and Wigfield 1999). This instrument is a paper-based questionnaire with Likert scale items about motivation (1 = very different from me, 2 = a little different from me, 3 = a little like me, and 4 = a lot like me). Based on the results of Huang's 2013 study, this project utilized four scales with 54 questions, translated into Chinese, measuring students' self-efficacy, intrinsic motivation, extrinsic motivation, and social motivation in reading.

The student interview protocol was based partially on Gambrell's *Motivation to Read Profile* (MRP) (Gambrell et al. 1996). The interview protocol included 13 major questions (see Appendix B). The teacher and parent interview protocols were drawn from the work of Hardré et al. (2006), which included 20 questions (see Appendices C and D).

### 8.2.5 Data Analysis

Descriptive statistical and qualitative analyses were included to answer the research question. The constant comparative method was used to analyze qualitative data (Glaser and Strauss 1967). The qualitative data analysis involved coding individual units, creating categories, comparing incidents applicable to each category, integrating categories, deleting overlapping categories, finalizing categories, and developing themes. Data analysis was completed when data saturation had been reached; that is, when additional analysis ceased to uncover new information (Huang 2013; Huang et al. 2015).

The researcher compared and contrasted both quantitative and qualitative findings and then employed triangulation to answer the research question. Finally, the

researcher identified and determined the consistencies and inconsistencies between the two sets of findings in the interpretation and discussion phase.

## 8.3 Results

### *8.3.1 Quantitative Results*

The descriptive statistics and internal consistency estimates of reliability of the MRQ variables are shown in Table 8.1. The descriptive statistics of gender difference for each variable are shown in Table 8.2.

The findings of the three sets of descriptive statistics show that the mean scores of the intrinsic motivation variable are higher than those of the other variables. Descriptive statistics also show that female students have higher mean scores in each variable than male students. The internal consistency estimates of reliability for self-efficacy, intrinsic motivation, extrinsic motivation, and social motivation variables in the CMRQ were 0.76, 0.85, 0.88, and 0.81 respectively. In general, the variables show strong internal consistency, as indicated by Cronbach's coefficient alpha. Table 8.3 shows the 12 interviewed students' mean scores for each variable.

The 12 interviewed students' mean scores for self-efficacy, intrinsic motivation, extrinsic motivation, and social motivation variables were 2.80, 2.95, 2.56, and 2.29 respectively.

**Table 8.1** Descriptive statistics for variable measured and reliability

| Measured Variable | No. of items | Mean | SD | Cronbach's $\alpha$ |
|---|---|---|---|---|
| Self-efficacy | 9 | 2.73 | 0.53 | 0.76 |
| Intrinsic motivation | 17 | 2.84 | 0.47 | 0.85 |
| Extrinsic motivation | 15 | 2.53 | 0.59 | 0.88 |
| Social motivation | 13 | 2.25 | 0.54 | 0.81 |

**Table 8.2** Descriptive statistics for gender differences for variable measured

| Measured Variable | Gender | N | Mean | SD |
|---|---|---|---|---|
| Self-efficacy | M | 46 | 2.66 | 0.53 |
| | F | 39 | 2.80 | 0.54 |
| Intrinsic motivation | M | 46 | 2.72 | 0.48 |
| | F | 39 | 2.96 | 0.47 |
| Extrinsic motivation | M | 46 | 2.50 | 0.61 |
| | F | 39 | 2.56 | 0.59 |
| Social motivation | M | 46 | 2.21 | 0.51 |
| | F | 39 | 2.30 | 0.58 |

**Table 8.3** The 12 interviewed students' descriptive statistics for each variable

| Measured Variable | No. of items | Mean |
|---|---|---|
| Self-efficacy | 9 | 2.80 |
| Intrinsic motivation | 17 | 2.95 |
| Extrinsic motivation | 15 | 2.56 |
| Social motivation | 13 | 2.29 |

### *8.3.2 Qualitative Results*

The qualitative analysis reveals four variables that influence the reading motivation of Chinese middle school students in Taiwan: (1) reading interest; (2) competition; (3) parent and teacher expectations; and (4) instructional practices. In the discussion below, all students, teachers, and parents' names are pseudonyms.

**Theme 1 Personal interest and reading choice drive students' intrinsic motivation to read and enhance their confidence** All 12 interviewed students indicated that reading books of personal interest fosters a more positive attitude towards reading. All of the interviewed teachers and parents also mentioned that they encourage students to read books they are interested in. The classroom field notes indicate that personal interest and reading choice not only allow students to stay focused and enjoy reading, but also enable them to sustain their interest and efforts even when reading long books. Numerous students were reading Chinese translations of *The Life of Pi* by Yann Martel (2012), *The Hunger Games* series by Suzanne Collins (2010), *The Lightning Thief* by Rick Riordan, and *The Sisterhood of the Traveling Pants* series by Ann Brashares (2008). Female readers in particular were interested in *The Sisterhood of the Traveling Pants* series. More female readers indicated they would like to read for pleasure when they have more free time than the male readers. Male readers were more interested in *The Life of Pi* and *The Lightning Thief* series by Rick Riordan (2006). Having the freedom to choose books of personal interest increases students' competencies and provides opportunities for students to form "book clubs" unintentionally. In the hallway, students discussed their reading and exchanged books with one another—even students who were not in the same class.

Field notes also show gender differences in reading interest. Five out of the six interviewed female students (Chen, Du, Huang, Wang, and Wu) mentioned that they were more interested in reading literature and novels, whereas interviewed male students generally indicated that they were interested in science and medical books. Four male students said they were reading about why many old people suffer from Alzheimer's disease. These students often read science magazines after class. The field notes also indicate that students' reading interest is domain-specific. All of the boys interviewed mentioned that they have high motivation in science and math, but not in Chinese literature. By contrast, some of the interviewed girls said they like to read Chinese or Western literature, but are less interested or confident in math. The field notes indicate that Chinese middle school students today have more access to updated English-language literature in translation through the use of Internet tech-

nologies and smartphones. These translated books provide Chinese middle school students with more reading choices.

**Theme 2 Middle school contexts foster students' extrinsic motivation to achieve their academic goals** All middle school students are required to take the high school entrance exam, because high school education is not compulsory in Taiwan, and getting into a good high school, and later into a university, is a competitive process. The field notes and the interviews with parents, teachers, and students indicate that the Chinese middle school climate is filled with tests, competition, and pressures to prepare for exams. These exams provide intense motivation for students to perform well.

Teachers and parents said that students face more challenging academic tasks today than in the past, and grades serve as a major indicator of competence and success. The field notes indicate that grades play a very significant role in motivating students to read and that students value grades as an important indicator of social status in the class. Students also believe that being a good reader has a positive influence on their grades. Seven of the interviewed students (Chen, Cheng, Hsu, Lee, Sun, Tasi, and Wang) made statements indicating that "receiving good grades means we are competent and will be successful." Parents and teachers also stated that grades can determine students' future direction.

The middle school learning environment in Taiwan is considered highly competitive, especially for ninth grade students, as they must take the high school entry exam by the end of the academic year. This means that ninth grade students are likely to face more academic pressure than those in other grades. Field notes suggest that competition drives students' motivation and also goal-setting. Students believe that competition helps them know what they want to accomplish and feel capable of staying focused to attain their goals. Goals also motivate them to make extra efforts to finish the tasks set up for them. The field notes also indicate that peer and social interactions directly influence students' academic performance and reading motivation: they were motivated to pick up books that their peers recommended. Moreover, checking and comparing each other's test scores was found to be a common social interaction. The students indicated that knowing what others were reading would improve their study skills or encourage them to want to read more supplemental texts.

**Theme 3 Parent and teacher expectations and choice of reading enhance their performance** Although students would prefer to read books of their personal choice, it was found that teachers and parents still had a strong influence on students' choice of reading material. All 12 interviewed students indicated that they would like to read books their teachers suggest for them. In addition, field notes reveal that some Chinese and English teachers recommend current popular novels to students, such as *The Hunger Games* and *The Life of Pi*. Many content-area teachers also strongly encourage students to read more supplemental materials after school, using statements such as, "reading improves your analytical thinking,"

"reading enlarges your English vocabulary," "reading increases your memory," and "reading improves writing skills."

One Chinese teacher promoted reading activities by rewarding students with a movie ticket after they finished reading five novels. In the three classes observed, the majority of male students were reading the Chinese translation of *The Life of Pi* by Martel. The movie ticket served as a motivator because they wanted to see the book's film adaptation, which was directed by a Taiwanese role model.

The field notes also indicate that the majority of interviewed students place great emphasis on reading at home because their parents value reading as an important activity. Books of different reading levels, genres, and authors were available at their homes. The interviewed students indicated that they are more motivated to read books when their parents discuss the books' content with them because it is appealing to have a reading partner at home and also to have more conversations with their parents.

Several students mentioned that their parents collect reading materials for them to read at home in case the school does not cover enough for the regional high school exam. Some parents reported that they often take their child or children to local bookstores or libraries. In recent years, the Ministry of Education of Taiwan has been actively promoting reading at all grade levels and encouraging reading as an important national activity. The interviewed parents expected their children to read widely, to be successful, and to have a promising future career with high social status. They believe that reading widely can help students pass the high school entry exam and also become more global-oriented citizens.

**Theme 4 Teachers' instructional practices and technology-integrated lessons affect students' motivation and engagement** Instructional approaches have a strong impact on students' motivation to read. Field notes show that reading instruction for multiple content areas place a heavy emphasis on memorization. Teachers frequently emphasize statements such as "memorized Chinese and English vocabularies and phrases can improve your reading comprehension" and "to improve your math and science scores, you need to memorize formulas." Text memorization seems to be a major strategy in preparing for examinations and obtaining good test scores, as well as for reading books in English. Five of the 12 interviewed students (Huang, Chang, Chen, Hsu, and Wu) indicated that they like to memorize Chinese and English sentences and phrases when they are writing Chinese and English compositions. Memorizing information from textbooks is the most important strategy to help students pass exams and receive good grades. They even used memorized phrases to enhance their oral communication skills. The field notes revealed that many students do not like memorizing either classical literary Chinese texts or Chinese poetry because these texts are not relevant to their daily lives. Field notes also give evidence that teaching practices commonly include asking questions, assigning worksheets, and giving tests.

Computers, tablets, and other electronic devices were widely accessible in the participating school. The majority of students had cell phones; although they were

not allowed to use them during class, they often used them to search for information after class. The use of integrated technology was another common teaching approach in multiple disciplinary areas. All 12 interviewed students indicated that technology-integrated lessons can help them become more active learners. Technology provides many opportunities for students to interact with classmates; it encourages self-directed learning, and makes them more willing to actively participate in the learning process rather than being passive learners. Teachers also indicated that integrated technology (e.g., Web 2.0 applications, the Internet, and videos) helps turn "boring" conceptual subjects like math into fun, engaging, and educational activities and also helps prepare students for their future workplaces. Students, too, reported that technology is an integral part of how they work and experience their everyday lives, and it prepares them better for their future careers. Although students would prefer to use technology in every content area, they also highly value the teacher-student relationship. They all expressed the idea that technology cannot replace good teachers.

## 8.4 Discussion

This study examined Chinese middle school students' reading motivation in Taiwan. Quantitative findings support the reliability of the CRMQ in measuring the reading motivation of Chinese middle school students. Students scored most highly on intrinsic motivation, followed by self-efficacy, extrinsic motivation, and social motivation. The qualitative findings of this study provide examples of multiple aspects of Chinese cultural and social contexts that influence Chinese middle school students' reading motivation, such as the value of education and educational systems.

In the quantitative findings, intrinsic motivation consistently showed the strongest relation with students' motivation to read among the four motivation constructs (self-efficacy, intrinsic, extrinsic, and social motivation). This indicates that students in this study are strongly motivated to read through intrinsic motivation, which is consistent with the findings of previous studies showing that Chinese students generally have a positive attitude toward learning (e.g., Huang 2013; Lau 2009; Shih 2005). The findings are also consistent with numerous studies in Western contexts indicating that intrinsic motivation is essential for learning (e.g., Guthrie and Klauda 2014; Mucherah and Yoder 2008; Schiefele et al. 2012; Wigfield et al. 2006).

The qualitative findings provide evidence that personal reading interest and reading choice are also strong intrinsic motivating forces for the students. Personal interest was found to be the most prominent factor driving students' motivation. The findings indicate that students who chose reading materials of personal interest used more self-directed learning strategies and made extra efforts to achieve their reading or academic goals. Personal reading interest and choices enable higher levels of engagement and involvement. These findings consistently confirm the results of several previous studies that show increases in intrinsic motivation and reading engagement when students select reading materials based on their reading interest

(e.g., Guthrie and Davis 2003; Guthrie et al. 2013; Kennedy 2010; McTigue and Liew 2011; Schiefele et al. 2012; Wigfield and Wentzel 2007). These findings also show that students who are encouraged or given personal choice are more likely to be self-regulated readers, which is consistent with the findings of some Western studies (e.g., Schunk 2003; Zimmerman 2000; Zimmerman and Schunk 2011).

Self-efficacy scores were lower than intrinsic motivation scores. Students motivated by self-efficacy identify their reading abilities based on the grades they receive. This probably suggests that they do not see themselves as having high reading abilities and skills, which is consistent with previous studies showing that Chinese students have lower self-efficacy than Western students. The likely reason for this is that traditional Chinese social values and Confucianism emphasize humbleness and modesty, and Chinese students have been taught to be humble and not to praise their own performance (e.g, Hong 2001; Huang et al. 2015; Lau 2009; Salili et al. 2001; Tasi et al. 2006).

The descriptive findings show that the mean scores of extrinsic motivation scales in this study are above the midpoint of 2.5. This suggests that extrinsic motivation plays a significant role in students' motivation to read. The qualitative findings indicate that Chinese high school entrance exams in Taiwan are extremely important for these middle school students because doing well in the exams is the best way for them to get into a high-status high school, which in turn, will get them into a prestigious university. Grades are often used as a benchmark to measure students' learning outcomes because taking tests is an indispensable part of the Chinese middle school context in Taiwan (Huang 2013; Huang et al. 2015; Lin et al. 2004). This may have led Chinese middle school students to develop a competitive, grade-oriented mentality focused on academic competition and social comparison. This aspect of extrinsic motivation has validated the findings of several previous studies showing that extrinsic motivators are still enormously powerful forces in students' lives (e.g., Huang 2013; Huang et al. 2015; Schaffner et al. 2013; Schiefele et al. 2012; Wigfield et al. 2004). These findings also confirm the results of previous studies indicating that, although extrinsic motivation has been shown as a negative motivational orientation in Western contexts, it may be a positive motivating force for Chinese students (e.g., Huang 2013; Huang et al. 2015; Lau and Lee 2008; Lepper et al. 2005; Shih 2005).

Social motivation had the lowest scores in this study. The quantitative findings are consistent with the findings of several previous studies conducted in a Western context showing that students do not seem to be motivated to read for social reasons (e.g., Guthrie et al. 2007; Guthrie et al. 2013; Wigfield and Wentzel 2007). However, this study's qualitative results indicate that students' reading motivation and engagement are strongly influenced by school contexts (e.g., instructional practices, educational environment), social culture (e.g., values), and relationships with others (e.g., teachers, parents, and peers). Different cultures have different values and beliefs that can motivate individuals to succeed in the academic domain and in career practices (e.g., Huang et al. 2015; Lau 2009; Salili et al. 2001). In this study, students, parents, and teachers were all found to believe that better education provides people with opportunities for social mobility and better financial situations in the future.

Education is a significant means for a person to move up the social and economic ladder in Chinese society (Hau and Salili 1997). This is consistent with Stevenson's (1992) research showing that Chinese students have significantly higher educational aspirations than Western students. Moreover, Chinese culture has a largely collectivistic orientation that emphasizes values such as conformity, respectful acceptance of advice from others, and family interdependence. Collectivism might be a strong factor driving students' reading motivation and achievement in the Chinese middle school learning contexts. This finding is also consistent with the studies by Wigfield and his colleagues (2002; 2007), which show that social factors can influence middle school students' motivation in many ways.

This research also revealed that collectivistic values play a central role in reading motivation. This supports the notion that Chinese students are socially oriented and demonstrates that students' reading motivation is driven by social values. For example, parents and teachers in this study strongly expect their students to be high achievers and to have successful careers, and the social value of reading has a great impact on students' reading and academic performance. The results are consistent with the findings of Salili et al. (2001) and Wang (2001): students' attitudes toward reading, learning, and achievement are affected by cultural values and social practices.

Evidence from this study shows that instructional practices have an important influence on students' motivation and engagement in reading activities for multiple content areas. The Chinese school system in Taiwan has emphasized doing well on the hierarchical examinations, and teachers evaluate students' learning and reading with worksheet practice and tests, which are prevalent in most Chinese middle school classrooms. This leads teachers to focus mainly on teaching factual information rather than asking students to think beyond the textbooks. This approach can lead students not to question their teachers' emphasis on fact-learning, because it is important for them to accept and support the teacher's role as the leader of the classroom (e.g., Huang et al. 2015).

The qualitative findings also show that the use of the Internet and other technologies can enhance students' motivation to read and to learn in a variety of ways. All teachers in this study have already integrated technology (e.g., Internet, Web 2.0 applications, YouTube, etc.) into their various content areas. Student learning styles have also been affected by new technologies. With easy access to the Internet, Chinese middle school students can get information anywhere around the world, and this includes new reading material. This finding is consistent with the results of recent studies indicating that the growing range of technology use, in and out of the classroom, increases the potential for enhancing student motivation for reading (Granito and Chernobilsky 2012; Stockwell 2013).

Teachers' and parents' expectations also play a strong role in students' reading motivation and choices of reading materials. Teachers generally set high expectations and high standards of achievement for students and provide them with opportunities to access a variety of reading materials and other supplemental resources to enhance their academic achievement. This study's results confirm the findings of previous studies demonstrating that teachers have a strong influence on Chinese

students' motivation and achievement (e.g., Huang 2013; Huang et al. 2015; Lau 2009; Lau and Chan 2003; Lepper et al. 2005); likewise, these results are also consistent with the findings of recent studies conducted in a Western context (e.g., Wigfield and Wentzel 2007; Wigfield et al. 2004). Moreover, this project found that parents generally challenge their children to achieve academic and career success-dreams that are equally important for parents and students. High expectations are considered necessary for students to be successful academically and professionally. For Chinese students, excellent academic achievement is seen as necessary for fulfilling their duty to their teachers and bringing honor to their parents (e.g., Huang et al. 2015; Lau 2009). As Chinese culture and values are still strongly embedded in the Chinese school contexts, students' reading and academic excellence can be often motivated by the expectations set by their teachers, parents or other important adults in their lives.

This investigation found that peer relationships are strongly related to social competence, academic success, and motivation to read. These students believe that their classmates can help them accomplish their reading goals and other academic objectives. This project's findings are consistent with those of several Western studies demonstrating that positive relationships with classmates provide middle school students an array of resources for instrumental help, encouragement, and support (e.g., Guthrie et al. 2007; Wentzel 2002; Wigfield and Wentzel 2007).

The data collected provides evidence that gender plays a role in students' motivation to read. This finding is perhaps not surprising, given the influence of society and the Chinese culture on the study's context. The quantitative findings found female students have higher scores in each variable. The qualitative findings indicate that female students want to read for pleasure more than male students. The qualitative findings also show that students' interest in different content areas could affect their reading choices. Boys tend to be more interested than girls in science fiction and contemporary fiction (e.g., *The Lightning Thief* and *The Life of Pi*), and girls are inclined to read literature or contemporary fiction (e.g., *The Sisterhood of the Traveling Pants* series). This finding is congruent with results from several studies about the gender gap in reading choices (e.g., Gambrell and Marinak 2010; Merisuo-Storm 2006; Meece 2006; Weiss and Smith 2002).

### *8.4.1 Limitations and Directions for Future Studies*

Issues related to the cultural and social aspects of motivation have not been explored extensively in quantitative studies, so researchers have a limited understanding of the "why" of reading behaviors. This study's findings indicate that applying results from studies conducted in Western contexts to Chinese student populations cannot fully or accurately indicate Chinese students' reading motivation. In this study, there is evidence that in Chinese middle schools in Taiwan, under the influence of the Chinese culture, where teaching and learning heavily focus on preparation for various examinations, students are more performance- and competition- oriented.

Social competition should be taken into consideration when researchers investigate Chinese students' motivation to read. This research has also confirmed that students from different cultures and contexts may be motivated by different forces in different ways (e.g., Huang et al. 2015; Lau 2009; Salili et al. 2001; Wigfield and Eccles 2002). More specifically, of the four motivation constructs studied, social motivation garnered the lowest scores among the Chinese students in this project. However, qualitative data indicated that social motivation plays a strong role in these students' motivation to read. This suggests that the survey might measure social motivation levels less accurately for Chinese middle school students' than for Western students. Therefore, the construct of social motivation should be revised for future study.

This study has two main limitations. First, the study was conducted at only one school and had only 88 participants; therefore, results should not be generalized for middle school students as a whole in Taiwan. Second, the CMRQ survey in this study does not include information about students' demographics (e.g., socioeconomic class) or academic details (e.g., grades for each content area). Therefore, it lacks the information needed to run statistical correlation and regression analysis to identify how grades for each content area and socioeconomic class affect students' motivation to read.

### *8.4.2 Implications*

Despite these limitations, the findings can provide new insights into how school contexts, instructional practices, and cultural values play a significant role in students' motivation to read. This study has important educational implications for teachers in Chinese middle schools, since it suggests that Chinese middle school students often read the textbooks that dominate the reading landscape in their content areas. Learning from these texts is essential to succeed in middle school, but if students are mainly motivated by grades, this may leave many with little intrinsic motivation to read. Teachers should provide a variety of fiction and nonfiction books related to various content areas, integrating some of them into curricular content. This approach will help students broaden their view of reading and also forge connections between different content areas. In every content area, teachers can encourage reading activities such as research groups and book clubs that enhance academic achievement and support social interaction. This could have great potential for strengthening students' motivation to read, but it could also help students relate to each other as members of reading communities, not just as academic competitors.

This project found that technology not only plays a significant role in students' motivation to read, but also enhances the school curricula for all grade levels and provides a greater array of reading material for students with diverse interests. This suggests that teachers in every content area can use technology productively to promote literacy and to teach content-specific knowledge by using discussion boards and blogs. Both can be used in the classroom to promote a collaborative interactive environment (Cohen and Cowen 2011; National Educational Technology Standards

2012). For example, the teacher can divide the class into several groups. Teachers can then post articles, links, pictures, and discussion questions and ask students to join in conversations within their groups. These activities allow students to exchange ideas online, to work together on projects in small groups, and to critique and discuss reading materials related to the content of the subject. This has the potential to lead Chinese middle school students to become less focused on competition and more integrated into a community of cooperative peer learners.

## Appendices

### *Appendix A. A brief Profile of 12 Selected Students*

| Name | Gender | Reading Interest Areas |
|---|---|---|
| Chen | F | Chinese and Western literature |
| Cheng | F | Chinese classical and Western literature |
| Huang | F | Translated literature |
| Du | F | Historical literature |
| Wang | F | Contemporary literature |
| Wu | F | Adventure literature |
| Hsu | M | Science fiction/comic books |
| Lee | M | Science fiction |
| Liu | M | Science fiction/comic books |
| Sun | M | Comic books with science fiction element |
| Tasi | M | Science fiction/Adventure literature |
| Yu | M | Science fiction |

### *Appendix B. Student Interview Questions*

| |
|---|
| What is your favorite subject in school? Why? |
| What subject do you like least? Why? |
| Do you like to read? Why? |
| What makes you want to read? Why? |
| Do you read outside of school or just at school? Why? |
| Are you a good reader? How do you know? |
| How do you describe yourself as a reader? |
| How often do you read for fun on your own time? |
| What types of books do you like to read? Why? |

| |
|---|
| Do you like to share books with your friends? |
| Do you think your teachers, parents, and peers think you are a good reader? How do you know? |
| Is it important for your teachers to know you do well in reading? How do you know? |
| Do you believe being a good reader is important for you to be successful in school or in your future career? |

## *Appendix C. Teacher Interview Questions*

| |
|---|
| 1. What subject areas do you teach? |
| 2. What subject area have you taught? |
| 3. What are your students' general levels of achievement in your class? |
| 4. What are your grading criteria? |
| 5. What is your students' level of motivation? |
| 6. How do you know when students are motivated? |
| 7. What do you do when your students are unmotivated? |
| 8. How do you deal with a gender gap in students' reading interests? |
| 9. What factors or features about your classroom environment can facilitate or inhibit students' reading motivation? |
| 10. What strategies have you used to promote reading activities in your school? |

## *Appendix D. Parent Interview Questions*

| |
|---|
| What is your profession? |
| How many children do you have? How old are they? |
| What is/are your child/children's level of motivation? |
| What profession do you expect your child/children to enter when they are adults? |
| How do you know when your child/children is/are motivated? |
| What do you do when your child/children is/are unmotivated? |
| How do you motivate your child/children to read? |
| How often do you talk to your child/children about reading activities? |
| How do you select or suggest books for your child/children to read? |
| What factors or features in your child/children's learning environment can facilitate or inhibit your child/children's reading motivation? |

## References


Baker, L. (2000). Building the word-level foundation for engaged reading. In L. Baker, M. J. Dreher, & J. Guthrie (Eds.), *Engaging your readers: Promoting achievement and motivation* (pp. 17–42). New York: Guilford.

Baker, L., & Wigfield, A. (1999). Dimensions of children's motivation for reading and their relations to reading activity and reading achievement. *Reading Research Quarterly, 34*, 152–177.

Bandura, A. (1997). *Self-efficacy: The exercise of control*. New York: W. H. Freeman.

Becker, M., & McElvany, N. (2010). Intrinsic and extrinsic reading motivation as predicators of reading literacy: A longitudinal study. *Journal of Educational Psychology, 102*, 773–785.

Biggs, J. B. (1995). Learning in the classroom. In J. B. Biggs & D. Watkins (Eds.), *Classroom Learning* (pp. 147–167). Singapore: Prentice-Hall.

Brashares, A. (2008). *The sisterhood of the traveling pants*. Bel Air: Ember.

Chen, C., Stevenson, H. W., Hayward, C., & Burgess, S. (1995). Culture and achievement: Ethnic and cross-cultural difference. In M. L. Maehr & P. R. Pintrich (Eds.), *Advances in motivation and achievement* (pp. 119–151). Greenwich: JAI Press.

Cohen, V. L., & Cowen, J. E. (2011). *Literacy for children in an information age: Teaching reading, writing, and thinking*. Belmont: Wadsworth, Cengage Learning.

Collins, S. (2010). *The hunger games*. New York: Scholastic Press.

Creswell, J. W. (2014). *Research design: Qualitative, quantitative, and mixed methods approaches* (4th ed.). New York: Sage.

Deci, E. L. (1992). The relation of interest to the motivation of behavior: A self-determination of theory perspective. In K. A. Renninger, S. Hidi, & A. Krapp (Eds.), *The role of interest in learning and development* (pp. 43–70). Hillsdale: Erlbaum.

Eccles, J. S., & Wigfield, A. (2002). Motivational beliefs, values, and goals. *Annual Review of Psychology, 53*, 109–132.

Gambrell, L., & Marinak, B. (2010). Reading motivation: Exploring the elementary gender gap. *Literacy Research and Instruction, 49*(2), 129–141.

Gambrell, L. B., Palmer, B. M., Codling, R. M., & Mazzoni, S. A. (1996). Assessing motivation to read. *The Reading Teacher, 49*, 518–533.

Glaser, B., & Strauss, A. (1967). *The discovery of grounded theory*. Chicago: Aldine.

Granito, M., & Chernobilsky, E. (2012). *The effect of technology on a student's motivation and knowledge retention*. NERA Conference Proceedings. Retrieved from http://digitalcommons.uconn.edu/nera_2012/17/

Guthrie, J. T., & Davis, M. H. (2003). Motivating struggling readers in middle school through an engagement model of classroom practice. *Reading and Writing Quarterly, 19*, 59–85.

Guthrie, J. T., & Klauda, S. L. (2014). Effects of classroom practices on reading comprehension, engagement, and motivations for adolescents. *Reading Research Quarterly, 49*, 387–416. https://doi.org/10.1002/rrq.81.

Guthrie, J. T., & Wigfield, A. (2000). Engagement and motivation in reading. In M. L. Kamil, P. B. Mosenthal., P. D. Pearson., & R. Barr (Eds.), *Handbook of reading research* (3rd ed., pp. 403–422). Mahwah: Erlbaum.

Guthrie, J. T., Wigfield, A., & Humenick, N. M. (2006). Influences of stimulating tasks on reading motivation and comprehension. *Journal of Educational Research, 99*, 232–245.

Guthrie, J. T., Hoa, A. L., Wigfield, A., Tonks, S. M., Humenick, N. M., & Littles, E. (2007). Reading motivation and reading comprehension growth in the later elementary years. *Contemporary Educational Psychology, 32*, 282–313.

Guthrie, J. T., Klauda, S. L., & Ho, A. N. (2013). Modeling the relationship among reading instruction, motivation, engagement, and achievement for adolescents. *Reading Research Quarterly, 48*, 9–26. https://doi.org/10.1002/rrq.035.

Hardré, P. L., Huang, S. H., Chen, C. H., Chiang, C. T., Jen, F. L., & Warden, L. (2006). High school teachers' motivational perceptions and strategies in an East Asian nation. *Asia-Pacific Journal of Teacher Education, 34*(2), 199–221.

Hau, K. T., & Salili, F. (1997). Achievement goals and causal attributions of Chinese students. In S. Lau (Ed.), *Growing up the Chinese way: Chinese child and adolescent development* (pp. 121–143). Hong Kong: Chinese University Press.

Hong, Y. (2001). Chinese students' and teachers' inferences of effort and ability. In S. Farideh & C. Chi (Eds.), *Student motivation: The culture and context of learning* (pp. 105–120). New York: Springer.

Huang, S. H. (2013). Factors affecting middle school students' reading motivation in Taiwan. *Reading Psychology, 34*, 148–181. https://doi.org/10.1080/02702711.2011.618799.

Huang, S. H., Ruan, J., & Capps, M. (2015). What sociocultural factors influence Chinese middle school students' reading motivation in Taiwan*? Quarterly Journal of Chinese Studies, 3*(2), 55–76.

International Reading Association. (2000). Excellent reading teachers: A position statement of the International Reading Association. *Journal of Adolescent & Adult Literacy, 44*, 193–200.

Kennedy, E. (2010). Narrowing the achievement gap: Motivation, engagement, and self-efficacy matter. *Journal of Education, 190*, 1–11.

Lau, K. L. (2009). Reading motivation, perceptions of reading instruction and reading amount: A comparison of junior and senior secondary students in Hong Kong. *Journal of Research in Reading, 32*, 366–382. https://doi.org/10.1111/j.467-9817.2009.01400.

Lau, K. L., & Chan, D. W. (2003). Reading strategy use and motivation among Chinese good and poor readers in Hong Kong. *Journal of Research in Reading, 26*, 177–190.

Lau, K. L., & Lee, J. C. K. (2008). Examining Hong Kong students' achievement and goals and their relations with students' perceived classroom environment and strategy use. *Educational Psychology, 28*, 357–372.

Lepper, M. R., Corpus, J. H., & Iyengar, S. S. (2005). Intrinsic and extrinsic motivational orientations in the classroom: Age difference and academic correlates. *Journal of Educational Psychology, 97*, 184–196.

Lin, M. C., Lee, G. C., & Chen, H. Y. (2004). Exploring potential uses of ICT in Chinese language arts instruction: Eight teachers' perspectives. *Computers & Education, 42*, 133–148.

Martel, Y. (2012). *Life of Pi*. New York: Mariner.

Mclnerney, D. M. (2008). The motivational roles of cultural differences and cultural identity in self-regulated learning. In D. H. Schunk & B. J. Zimmerman (Eds.), *Motivation and self-regulated learning: Theory, research, and applications* (pp. 369–400). New York: Erlbaum.

McTigue, E., & Liew, J. (2011). Principles and practices for building academic self-efficacy in middle grades language arts classroom *The Clearing House, 84*, 114–118. doi: 0.1080/00098655.2010.543191

Meece, J. (2006). Gender and motivation. *Journal of School Psychology, 44*, 351–373. https://doi.org/10.1016/j.jsp.2006.04.004.

Merisuo-Storm, T. (2006). Girls and boys like to read and write different texts. *Scandinavian Journal of Educational Research, 50*(2), 111–125. https://doi.org/10.1080/00313830600576039.

Möller, J., & Bonerad, E.-M. (2007). Fragebogen zur habituellen Lesemotivation [Habitual reading motivation questionnaire]. *Psychologie in Erziehung und Unterricht, 54*(4), 259–267.

Mucherah, W., & Yoder, A. (2008). Motivation for reading and middle school students' performance on standardized testing in reading. *Reading Psychology, 29*, 214–235. https://doi.org/10.1080/02702710801982159.

National Educational Technology Standards. (2012). *The standards for learning, leading, and teaching in the digital world.* Washington, DC: International Society for Technology in Education. Retrieved from http://www.iste.org/standards

Nolen, S. B. (2007). Young children's motivation to read and write: Development in social contexts. *Cognition & Instruction, 25*(2/3), 219–270. https://doi.org/10.1080/07370000701301174.

Paige, D. (2011). Engaging struggling adolescent readers through situational interest: A model proposing the relationship among extrinsic motivation, oral proficiency, comprehension, and academic achievement. *Reading Psychology, 32*, 395–425. https://doi.org/10.1080/02702711.2010.495633.

Perry, N. E., Turner, J. C., & Meyer, D. K. (2006). Classrooms as contexts for motivating learning. In P. A. Alexander & P. H. Winne (Eds.), *Handbook of educational psychology* (2nd ed., pp. 327–348). Mahwah: Erlbaum.

Pintrich, P. R., & Schunk, D. H. (2002). *Motivation in education: Theory, research, and application* (2nd ed.). Englewood Cliffs: Merrill Prentice Hall.

Reed, J. H., Schallert, D. L., Beth, A. D., & Woodruff, A. L. (2004). Motivated reader, engaged writer: The role of motivation in literate acts of adolescents. In T. L. Jetton & J. A. Dole (Eds.), *Adolescent literacy research and practice* (pp. 251–282). New York: Guilford.

Riordan, R. (2006). *The lightning thief*. White Plains: Disney-Hyperion.

Salili, F., Chiu, C., & Lai, S. (2001). The influence of culture and context on students' motivational orientation and performance. In F. Salili, C. Chiu, & Y. Hong (Eds.), *Student Motivation: The culture and context of learning* (pp. 221–247). New York: Kluwer Academic.

Schaffner, E., Schiefele, U., & Ulferts, H. (2013). Reading amount as a mediator of the effects of intrinsic and extrinsic reading motivation on reading comprehension. *Reading Research Quarterly, 48*(4), 369–385. https://doi.org/10.1002/rrq.52.

Schiefele, U., & Schaffner, E. (2013). Die Lesemotivation von Grundschülern der sechsten Klassenstufe: Ergebnisse einer Interviewstudie [Reading motivation of sixth-grade elementary school students: Results from an interview study]. *Psychologie in Erziehung und Unterricht, 60*(3), 214–233.

Schiefele, U., Schaffner, E., Möller, J., & Wigfield, A. (2012). Dimensions of reading motivation and their relation to reading behavior and competence. *Reading Research Quarterly, 47*(4), 427–463.

Schunk, D. H. (2003). Self-efficacy for reading and writing: Influence of modeling, goal setting, and self-evaluation. *Reading & Writing Quarterly, 19*, 159–172.

Schunk, D. H., & Pajares, F. (2002). The development of academic self-efficacy. In L. Wigfield & J. S. Eccles (Eds.), *Development of achievement motivation* (pp. 15–31). San Diego: Academic Press.

Shih, S. S. (2005). Taiwanese sixth graders' achievement goals and their motivation, strategy use, and grades: An examination of the multiple goal perspective. *Elementary School Journal, 106*, 39–58.

Smith, D. C. (2000). Work force development: The Chinese commercial high school in Taiwan as a vehicle for economic development. *ERIC Database*, *U.S. Department of Education, Educational Resources Information Center*. Retrieved from http://files.eric.ed.gov/fulltext/ED434224.pdf (ED 434424).

Stevenson, H. W. (1992). Learning from Asian schools. *Scientific American, 267*, 70–76.

Stockwell, C. (2013). Technology and motivation in English-language teaching and learning. In E. Ushioda (Ed.), *International perspectives on motivation* (pp. 156–175). New York: Palgrave Macmillan.

Taboada, A., Tonks, S., Wigfield, A., & Guthrie, J. (2009). Effects of motivational and cognitive variables on reading comprehension. *Reading and Writing, 22*, 85–106. https://doi.org/10.1007/s11145-008-9133-y.

Tasi, J. L., Knutson, B., & Fung, H. H. (2006). Cultural variation in affect valuation. *Journal of Personality and Social Psychology, 90*, 288–307.

Wang, J. H. (2001). *Motivational process of text comprehension: Structural modeling of cross-cultural relation*. Unpublished doctoral dissertation. College Park, MD: University of Maryland.

Weiss, M., & Smith, A. (2002). Friendship quality in youth sport: Relationship to age, gender, and motivation variables. *Journal of Sport & Exercise Psychology, 24*, 420–437.

Wentzel, K. R. (2002). The contribution of social goal setting to children's school adjustment. In A. Wigfield & J. Eccles (Eds.), *Development of achievement motivation* (pp. 221–246). San Diego: Academic Press.

Wigfield, A. (2000). Facilitating children's reading motivation. In L. Baker, M. J. Dreher, & J. Guthrie (Eds.), *Engaging your readers: Promoting achievement and motivation* (pp. 140–158). New York: The Guilford Press.

Wigfield, A., & Eccles, J. (2002). Introduction. In L. Wigfield & J. S. Eccles (Eds.), *Development of achievement motivation* (pp. 1–11). San Diego: Academic Press.

Wigfield, A., & Guthrie, J. T. (1997). Relations of children's motivation for reading to the amount and breadth of their reading. *Journal of Educational Psychology, 89*(3), 420–432. https://doi.org/10.1037/0022-0663.89.3.420.

Wigfield, A., & Wentzel, K. R. (2007). Introduction to motivation at school: Interventions that work. *Educational Psychologist, 42*(4), 191–196.

Wigfield, A., Guthrie, J. T., Tonks, S. M., & Perencevich, K. C. (2004). Children's motivation for reading: Domain specificity and instructional influence. *Journal of Educational Research, 97*, 299–309.

Wigfield, A., Eccles, J. S., Schiefele, U., Roeser, R., & Davis-Kean, P. (2006). Development of achievement motivation. In W. Damon (Series Ed.) and N. Eisenberg (Volume Ed.), *Handbook of child psychology* (6th ed.) (Vol. 3, pp. 933–1002). New York: Wiley.

Zimmerman, B. J. (2000). Attaining self-regulation: A social cognitive perspective. In M. Boekaerts, P. R. Pintrich, & M. Zeidner (Eds.), *Handbook of self-regulation* (pp. 13–39). San Diego: Academic Press.

Zimmerman, B. J., & Schunk, D. H. (Eds.). (2011). *Handbook of self-regulation of learning and performance*. New York: Routledge.

# Chapter 9
# Boys' and Girls' Reading Skills and Attitudes During the First Six School Years


**Tuula Merisuo-Storm and Juli-Anna Aerila**

**Abstract** We have conducted several studies in Finland on primary school pupils' reading skills and attitudes towards reading. Results show that girls have better reading skills and more positive attitudes than boys. However, boys' confidence in their reading skills is high and they assess their skills better than they actually are. Boys have negative opinions, especially about the exercises during the literacy lessons and homework. Therefore, teachers should consider what kind of tasks and reading materials would interest boys as well as girls. In addition, it would be good to connect social interaction and conversations with peers to reading. Textbooks are today still a central source of information in content area classes. Reading comprehension tests in both history and natural sciences show that, in sixth grade, boys have especial difficulties in understanding these contents. It would also be necessary to use other types of reading materials and to teach reading comprehension strategies that help pupils understand the contents of the textbooks, to find the main ideas in the text, to combine different pieces of information, and to make inferences. There is a strong correlation between pupils' self-esteem, reading attitudes, and reading comprehension skills. Pupils who have good self-esteem have a positive attitude towards reading and good reading comprehension skills. This is the case especially for boys. Consequently, it is essential that teachers support the positive development of pupils' self-esteem as well as reading skills and attitudes.

**Keywords** Reading skills · Reading attitudes · Gender · Primary school · Finland

T. Merisuo-Storm (✉) · J.-A. Aerila
Department of Teacher Education, University of Turku, Turku, Finland
e-mail: tuumer@utu.fi; julaer@utu.fi



P. Orellana García, P. Baldwin Lind (eds.), *Reading Achievement and Motivation in Boys and Girls*, Literacy Studies 15,
https://doi.org/10.1007/978-3-319-75948-7_9

## 9.1 Introduction

The ability to read is fundamental to a person's intellectual development. Good literacy skills are in today's digitalised world even more essential than before. In Finland, it is taken for granted that all citizens are literate. In addition, international assessments (Programme for International Reading Assessment [PISA]; Progress in International Reading Literacy Study [PIRLS]) have shown that Finnish pupils have excellent reading skills. PISA assesses the reading skills of 15-year-olds and PIRLS assesses 10/11-year-old pupils. The PISA 2012 report explains the reasons behind Finnish pupils' good reading skills. Early detection mechanisms—such as pupils' individualised assessments—make it possible to identify struggling learners. Consequently, students get necessary support early on and are able to continue their education at the same pace as their peers. However, it is important to pay attention to the fact that Finnish pupils' performance in the last PISA (2012) and PIRLS (2011) was—although still very good—not as good as it had been in the previous assessments (Kupari et al. 2012; Mullis et al. 2009; OECD 2013).

A key finding in the assessment is the significant gender gap obtained in these results. Girls outperform boys in reading almost in every country. This gender gap is especially significant in some of the high-performing countries, where almost all low achievers in reading are boys. In addition, between PISA 2000 and PISA 2012 the gender gap widened in 11 countries. Low-performing boys are heavily overrepresented among the group of the pupils who fail to show basic levels of reading literacy (OECD 2013). PISA results indicate that in order to be able to fulfil one's potential one needs determination, motivation, and self-confidence. Low achievers have a low level of engagement in reading. Pupils can only achieve at the highest levels when they are motivated to work and consider that they are in control of their success and capable of good achievements. To bridge this gender gap in reading performance, we need to help boys find pleasure in reading and increase their interest and engagement with literature in general (Välijärvi et al. 2007).

## 9.2 Learning to Read

Children acquire reading literacy through activities and experiences in various environments. However, the development of their reading skills and attitudes towards reading literacy occurs mainly at home and at school (Suggate et al. 2013). If home provides a rich reading environment that includes various literacy resources, children become interested in them and learn to concentrate while using them. When they see their parents reading and writing they begin to understand that these activities are an essential part of everyday life (Bråten et al. 1997; Neuman et al. 2008). The more often parents engage their young children in literacy enhancing activities the more likely children's reading interest will increase. These activities also develop children's print knowledge. Their literacy competence develops when there

are books at home, parents read books with children, and engage children in learning opportunities. When they become familiar with versatile literacy materials, it increases their awareness of the diverse purposes of the written text and improves their vocabulary and knowledge of story structure. As a result, they often learn to read without struggle and reading can become a pleasant pastime for them (Wallace 1992; Weigel et al. 2010).

In addition, Kindergarten is the learning environment that supports children's emerging literacy skills. For instance, activities that include interaction between adults and children during reading, group work and play, enhance the development of their skills. As children's development requires a strong physical and psychological literacy environment the role of preschool teachers is essential for ensuring that learning environments succeed in promoting children's development. In Kindergarten, various reading and writing materials for children's independent use should be available at all times (Ball and Gettinger 2009; Guo et al. 2012).

*Phonological awareness* has been found to be among the best predictors of reading ability across languages. The term refers to the ability to detect and manipulate sound segments of speech, such as words, syllables, onsets, and rhymes. *Phonemic awareness* refers to the ability to discriminate and manipulate individual speech sounds, namely, phonemes. Children need to acquire the lower-level phonological awareness skills before they can be successful with phonemic awareness skills. *Phonological memory* is closely related to phonological awareness and they are both essential to the development of reading skills. During the period of development of reading skills three levels of phonological processing—discrimination, awareness, and memory—build on. As children develop, the influence of phonological memory on the acquisition of reading skills becomes more important (Nithart et al. 2011; Pufpaff 2009).

Nowadays almost all Finnish six-year-olds attend preschool and the results of our study (Merisuo-Storm and Soininen 2012) show that it has had a positive influence on children's phonological skills. We assessed the phonological skills of 263 children during their first weeks in first grade. Results show that most first-graders succeeded well in the tasks related to rhyming, syllabification, discrimination of the length of words, and discrimination of first sounds in words. Results showed no significant difference in terms of gender. However, boys had greater difficulties in the memory task. Children were shown two sets of pictures (seven pictures in the first set and eight pictures in the second set). When a set of pictures was in view, the researcher pointed at each picture and said aloud what the picture showed (e.g., *fish*, *car*, *doll*). The pictures were named twice and then children were allowed to look at them for a while. This seemed to be very difficult for several pupils, especially for many boys. They could not concentrate in watching the pictures and memorising them. Consequently, they did not remember which of the pictures were missing from the set they were shown afterwards. There was a significant difference in the results of the two genders ($t = -2.86$, $p = 0.005$).

One explanation for the boys' poor concentration skills may be the differences in boys' and girls' toys and games. At home, children are often directed towards certain kinds of games. Parents give boys and girls toys of a different kind. While

girls' toys give them opportunities to develop their communication skills, boys' toys develop their technical knowledge and skills. Girls play social games, for example, with dolls or teddy bears, which support the development of their language and communication skills. Reading books and solving jigsaw puzzles teach girls to concentrate. Boys' more active games, for instance with car toys, may develop their spatial skills but not language, memory, and concentration skills (Fisher 2002; Francis 2010). Consequently, in preschool, it is necessary to do exercises that enhance boys' concentration and memory skills. These could easily be connected with their favourite games.

## 9.3 Reading Comprehension Skills

The definition of *skilled reading* includes, in addition to the capacity to read accurately and fluently, the ability to comprehend what is being read (Suggate et al. 2013). Rapid-word-identification and the construction and integration of meaning are essential in the reading process. For a non-fluent reader, word identification demands the mental capacity that would be needed for the comprehension process. Consequently, he or she has difficulties in understanding a text. As the pupils need good comprehension skills when acquiring new information from textbooks and other literary sources, this leads to problems in studying almost any school subject (Hurry and Doctor 2007; Kuhn et al. 2010; Schellings et al. 2006).

The comprehension process is complicated because of the large selection of texts available. Many pupils have difficulties especially in comprehending expository texts, which often have complex structures and include a great deal of new information. They may contain abstract and logical relationships that are difficult for the young reader to understand. In order to become skillful readers, children should be given opportunities to read texts from different genres during their first years of school. Then the different text structures become gradually familiar to them and this will help them to comprehend more complex texts in future (Best et al. 2008; Williams et al. 2005). However, research has shown that during the first school years, children do not get many opportunities to read or write expository texts in school. Therefore, they are able to understand narrative texts more easily than informational texts. Still, the older they become, the more often they need good reading comprehension skills in order to acquire new information (Fang 2008; Reutzel et al. 2005).

During the comprehension process readers construct meaning by interacting with the text and by using their previous knowledge and experience and the information that the text includes. The more background information related to the text readers have, the easier it is for them to understand the text. When reading, they activate their previous knowledge about the topic. Moreover, several other factors influence readers' interaction: how easy the text is to read, how precisely it follows genre or structure conventions, the language used, and even the font type and size (Blair-Larsen and Vallance 2004; Pardo 2004). When reading non-fiction, readers

need to understand the topic, be able to find the central information in it, and learn and remember the new facts it provides. Skilful readers locate basic facts and find several pieces of information in the text that make the understanding easier (Scharer et al. 2005).

Reading different genres and text formats gives pupils opportunities for the use of various comprehension strategies, such as previewing, activating prior knowledge, predicting, making connections, monitoring, organising, summarising, questioning, and visualising. These strategies offer access to knowledge that is beyond children's personal experience and help them to become meta-cognitive readers. Young readers should also learn to decide which strategies are the most useful depending on the content of the text and its level of difficulty. In addition, they should learn to monitor their own reading comprehension (Bimmel and van Schooten 2004; Dougherty Stahl 2004; McLaughlin 2006). Children's comprehension of a text can occur at different levels: the *literal level* includes only surface understanding; at the *inferential level* a reader draws inferences; and at the *evaluative level* a reader engages emotionally and responds either positively or negatively to the text itself. Inferential reasoning is an essential factor of skilled reading and the ability to use it distinguishes good comprehension from poor understanding. It means that the reader makes connections that are not clearly expressed in the text, that is, he or she 'reads between the lines' (Coiro and Dobler 2007; Parker and Hurry 2007).

As stated above, the comprehension processes of various genres are different. Therefore, it may be that a reader who understands one type of text well has difficulties in comprehending other texts. It is possible that comprehension instruction in one genre does not transfer to another. Hence children should be taught how to use comprehension strategies in diverse contexts (Duke and Martin 2008). According to Parker and Hurry (2007), when teaching reading comprehension, many teachers use only direct oral questioning, which usually produces predictable correct answers. They seldom encourage children to develop more elaborate ideas. Even if the range of questions is wide and appropriate, children's role can be too passive. Similarly, Duke and Martin (2008) emphasise that a few minutes of asking and answering questions about a passage is not enough.

Pupils with a small vocabulary have even more difficulties in comprehending texts. If a significant word or concept is unknown, it is possible that the meaning of the whole passage remains unclear to readers. In addition, they do not have strategies for inferring the meaning of an unfamiliar word. Explicit instruction of the meanings of specific words has proved to increase pupils' vocabulary but takes a great time and effort. Therefore, it is important to teach poor readers to recognise unfamiliar words and to infer the meanings of these words from context. Students should be taught how to find the most productive context cues from the text. Strategies for deducing the meaning of words from context focus on using pieces of information the text provides to infer these meanings. The pupils' ability to derive a word meaning improves if they have an opportunity to explain the reasoning behind their own definitions or the correct definitions of the words. Their skills also develop when they hear the teacher and other pupils think aloud during the word explanation process (Cain 2007; Farrington 2007; Tomesen and Aarnoutse 1998).

It seems that today textbooks are still a central source of information in content area classes. To become academically successful, pupils have to learn to understand the contents of textbooks. Therefore, at both primary and secondary levels, teachers should help pupils learn to understand what they read in the textbooks of different school subjects. Integrating the teaching of comprehension strategies to learning information in content areas could effectively develop pupils' reading skills. Teachers should discuss the features of textbooks with their pupils (e.g., boldface words, diagrams, maps, and photographs with captions). As textbooks often use vocabulary that is not familiar to pupils, they should also be taught how to infer the meanings of unknown words from the context. This makes it easier for pupils to learn more content and meet the language demands present in textbooks (Farrington 2007; Bryce 2011; Garber-Miller 2006; Guthrie and Klauda 2012; Swanson et al. 2011).

## 9.4 Reading Comprehension Skills of Primary-School-Aged Boys and Girls

We have conducted several studies that have aimed to assess primary school pupils' reading comprehension skills in Finland. In these studies, we have measured pupils' comprehension skills in second, third, fourth, and sixth grade. The type of text used in these studies ranged from fiction to non-fiction, textbooks, and newspaper articles. In all grades, pupils read the texts, answered questions related to these texts, and explained the words that were underlined in the texts. In addition, sixth-graders wrote a summary of a non-fictional text. Results show that in all grades, girls' comprehension skills are significantly better than the boys'. During one of these studies, children's development was monitored from the first to the sixth grade. Results suggest that the levels of a pupil's phonological awareness and phonological memory at the beginning of first grade have a strong effect on his or her reading comprehension skills still after two school years. Furthermore, several pupils who had poor skills at the end of second grade were still struggling to comprehend at the end of sixth grade (Merisuo-Storm 2010). Results also showed that first graders' success in memory tasks significantly predicted their spelling skills in sixth grade (Merisuo-Storm 2007). In the following sections we present key results of our studies on primary school pupils' reading comprehension skills.

Two of our studies aimed to assess second graders' (8/9-year-olds) reading comprehension skills. The first one measured how well pupils understand fiction and nonfiction (Merisuo-Storm and Soininen 2010), and the second study measured their ability to understand *easy-to-read newspaper text*, that is, a text that is written in plain language[1] (Merisuo-Storm and Soininen 2011). In the first study, 188 pupils

[1] Plain language is language which uses clear, commonly understood terms and brief expressions. It is specifically designed for people who have poor language skills (e.g. immigrants, handicapped people, students with learning problems, old people).

(85 boys and 103 girls) read the story "Ship's Child" and a nonfiction text about big cats. "Ship's Child" is a story about country people who, for the first time in their life, see a boat. The boat looks so nice that they want to have one too, but they do not have enough money. Instead, they buy a small dinghy because they believe that if they feed it well it will grow up and become a ship. The non-fiction text includes information about the different species of big cats. On average, for second graders, answering the questions proved to be easier than explaining the words. The maximum score in both sections of the test was 10 for the questions and 10 for the words. In the story section, the mean of the pupils' scores was 6.2 (SD 2.0) in answering questions and 4.1 (SD 2.5) in explaining words. In the nonfiction section, the mean values were 7.3 (SD 2.5) and 3.7 (SD 2.4). Ten per cent of the pupils could not explain a single word in the story section correctly and 16% of the pupils managed equally unsatisfactorily in the nonfiction section task.

In answering the questions related to the story, girls' results were significantly better than those of the boys ($t = -3.39$, $p = 0.001$). It seemed to be especially easier for the girls to understand the personalities of the main characters and the decisions they made. The difference between the two genders' results of the three questions that demanded this kind of sensitivity was significant ($t = -2.95$, $p = 0.004$): *Why did they take the dinghy to the waterside meadow? Why did they take the dinghy back to town?* And, *in your opinion, what were the main characters like?* However, there was no significant difference between the boys' and girls' ability to answer questions related to the nonfiction text. In this part of the test, those questions in which pupils had to make inferences or connect information in different parts of the text proved to be the most difficult: *Why are the big cats often on the move by night?* And, *which of the big cats closely resemble each other?* About half of the boys (47% to 50%) and more than one third of the girls (35% to 38%) offered an incorrect answer to these questions.

Altogether, 598 second-graders (296 girls, 290 boys) took part in the study where the pupils read an article (100 words) that had been published on the young readers' section of a plain language newspaper. The article entitled "Dolphins Avoid the New Pool" talks about a new and spacious pool that had been built for bottlenose dolphins in Särkänniemi Dolphinarium, located in the city of Tampere, Finland. Dolphins are afraid of the passage connecting the new and the old pools. Therefore, the pool that costed €6 M is always empty. After reading the article, pupils were asked to answer eight questions in relation to the text and explain the ten words underlined in the text.

These results are similar to the results above. At the same time, those questions in which pupils had to make inferences or connect information from the different parts of the text also proved to be difficult. Even more difficult was the question that could be answered with the help of the photograph beside the article. Little more than one third of the pupils (36%) understood that beside the text there was a picture that could provide useful information. Furthermore, the results of this study indicate that deriving the meaning of an unknown word from context was, for a great number of the second graders, a new and highly demanding task. It seems that many pupils did not even understand what they were supposed to do. There is a significant

difference in the pupils' question section scores and the word explaining section scores (t = 32.11, p = 0.000). Due to the fact that some of the words had different meanings in different contexts, it was stressed in the instructions that pupils should write what the words mean in *this* particular text. However, several students gave explanations that did not match the contents of the text at all. Explaining eight of the ten words proved to be so difficult that only 10–27% of the pupils were able to do it correctly. There were only five pupils (1%) who could not answer any of the questions correctly and 133 pupils (23%) who could not give an acceptable explanation to any of the words. While there is no significant difference in the girls' and the boys' performance in answering these questions, girls were significantly more successful in explaining the words (t = 3.13, p = 0.002).

In the studies conducted in the third (9/10-year-olds) and the fourth grade (10/11-year-olds), pupils read both, a story and a non-fiction text, then answered ten questions and explained ten words related to both texts. The third graders' story was entitled "Three Wishes" and the title of the nonfiction text was "Rabbit Hopping Contest". In the fourth grade, students read a story called "Elves as Shoemakers" and a nonfiction text entitled "Pyramids". Considering the findings of both studies, one can find many similarities with the results obtained for the second grade. Girls succeeded significantly better than the boys in answering the questions in both grades (t = 3.46, p = 0.001; t = −3.08, p = 0.002). The most difficult questions were those which required inferential reasoning or a deeper understanding of the text. For instance, in third grade only one fifth of the pupils (20%) could answer the question correctly (*Why didn't the wife want a new cottage?*) and in the fourth grade less than one third (31%) gave an acceptable answer to the question (*Why didn't the elves want to go to the shoemaker's house?*). Especially when answering these difficult questions, girls succeeded better than boys. In both grades, the same pupils succeeded and the same students did more poorly in both sections of the test. The correlation between the two sections was significant (r = 0.208**, p = 0.003; r = 0.255**, p = 0.001). It is somewhat disquieting to notice that for fourth graders, the narrative text was significantly easier to understand than the informational text (t = 7.69, p = 0.000) because the text about pyramids resembles texts found in the textbooks that they read in school. An explanation for this may be, as Fang (2008) as well as Reutzel et al. (2005) point out, that during the first school years children do not get many opportunities to read information texts in school. Therefore, they are able to understand narrative texts more easily than information texts.

For the third graders, the explanation of the words proved to be significantly more difficult than the answering of the questions (t = 23.04, p = 0.000). However, the same pupils had the best results in both tasks (r = 0.435**, p = 0.000). While in the fourth grade, the correlation between these two tasks is also significant (r = 0.573**, p = 0.000), there is no relevant difference in the pupils' success in these tasks. For both age groups the most difficult words to explain were abstract words and those words that have different meanings in different contexts. Because students often gave explanations that the words have in other contexts, it was obvious that they were not able to use the cues that the textual context provided. In addition, they did not consider if the meaning they gave for a word matched the

content of the text. Another problem was that some pupils had difficulties in explaining the words even if they understood what they meant. Therefore, apart from learning the strategies for inferring the meanings of words it is important for pupils to have opportunities to practise the explanation of word meanings in relation to context.

We have conducted several studies on pupils' reading comprehension skills at the end of sixth grade (12/13-year-olds). It is an important phase in the students' lives because the coming autumn they are going to transfer to secondary school. This is when their learning begins to rely more and more on the ability to read independently and to use reading as a tool for acquiring new information in different content areas. We mentioned before the study carried out by Merisuo-Storm (2010) which monitored children's development from the first to the sixth grade. In this study, 132 sixth graders read a story, a newspaper article, and an informational text. The first text was a story entitled "What the Old Man Does is Always Right" by H.C. Andersen (882 words). After reading the text, pupils answered 20 questions. Results show that, in contrast to girls, boys did not want to reread the story in order to find the correct answer and invented an incorrect explanation to some questions. This was the case, for example, when the answer could be found almost at the beginning of the story and readers had already forgotten about it. While 85% of the girls answered this question correctly only one third of the boys (34%) succeeded equally well in the task. Furthermore, when the question was about a small detail in the story boys offered an incorrect answer more often than girls ($t = -2.67$, $p = 0.000$). It was mentioned above that in the second grade, girls understood the personalities of the main characters and the decisions they made better than boys. This proved to be true also in the sixth grade as, in contrast to boys, girls answered correctly those questions that demanded this kind of understanding ($t = -3.25$, $p = 0.000$). For instance, one of the questions was: *What is the title of the story based on?* ("What the Old Man Does is Always Right"). Although most pupils understood that the man made very foolish decisions, many of them accepted the title as a fact. Less than one third of them understood that it was only an expression that his wife used or that it was her personal opinion about the matter. The wife loved her husband and did not want to criticise his actions. They wrote that she did not like to argue with him or that she was a positive, sweet person who was always able to find something good in her husband's decisions.

The second text was a newspaper article entitled "In the Large Footsteps of H.C. Andersen" (359 words). After reading the article, students answered ten questions and explained the meaning of ten words taken from the text. There was no significant difference in the aggregated scores of boys and girls in this section of the test although 40% of the girls' marks were excellent and only 23% of the boys succeeded equally well. Once more, it was more difficult for the boys than for the girls to find specific details in the article. It was noticeable that girls put more effort in searching them. Also in this section of the test, the most difficult question was related to the title of the article ("In the Large Footsteps of H.C. Andersen"). It was mentioned in the article that Andersen's shoes were big (size 47) but only 28% of the pupils understood that the phrase in question also referred to the fact that

Andersen was a great author and famous all over the world. The results of the study suggest that teachers should discuss with pupils how titles may have simultaneous concrete and abstract meanings. Students should also learn to understand the importance of a good title in both fiction and nonfiction genres. Often a reader chooses reading materials based on their titles.

When explaining the words, it was obvious that many pupils could not take advantage of the cues in the text. They gave similar explanations to those the words have in other contexts. The most difficult word to explain was *välähdys*. In this text, it means 'a glimpse of something' but in a different context the same word means 'a flash' or 'a gleam'. Although the word refers to the previous sentence, one third of the pupils (32%) did not pay attention to the context and gave a misguided explanation. It seems that the concrete meaning of the word was so strong in the pupils' minds that they ignored the cues in the text. There was a strong correlation between the success in explaining the words and answering the questions related to the newspaper article ($r = 0.540^{**}$, $p = 0.000$). In addition, there was a strong correlation between the results of the word explaining section of the test and the results in the fiction text section ($r = 510^{**}$, $p = 0.000$). Although it seemed that the boys' performance in the newspaper article section was slightly better than in the story section, the strong correlation between the two sections ($r = 0.510^{**}$, $p = 0.000$) shows that the same pupils had good scores in both sections.

The third text was a nonfiction text about orangutans and their living conditions in today's world (396 words). Students were asked to read the text and then write a five-sentence summary of it. It was stressed that the summary should include the most essential ideas of the text. This part of the test proved to be the most difficult one. Although the difference between boys' and girls' results was not significant, girls outperformed boys in their summarising skills. While 11% of the girls and only 3% of the boys had excellent marks, 10% of the boys and only 2% of the girls had poor marks. Results show that several pupils could not determine what the main ideas of the text were. Some of them repeated all the facts in the text, even the trivial ones. Although, the most important ideas in the text were that orangutans are an endangered species and that one should protect their environment, some pupils did not mention them in their summaries.

It seemed that students had not had enough practice in summarising and therefore many of them failed in doing so. Several pupils who had performed considerably well in the previous sections of the test did very poorly in the summarising section. While the correlation between the results of comprehension skills for both, the story and the newspaper, was strong ($r = 0.510^{**}$, $p = 0.000$), the correlations between them and the results of the summarising section ($r = 0.340^{**}$, $p = 0.000$; $r = 0.390^{**}$, $p = 0.000$) were not equally high. It was noticeable that students had more experience in answering comprehension-type questions than in finding the main ideas in a text for subsequent summarising. Results support the findings of Parker and Hurry (2007) who argue that many teachers lack explicit knowledge of the key reading comprehension strategies. Direct oral questioning seems to be the dominant strategy for teaching reading comprehension.

We also used a newspaper article as the reading material for sixth graders in another of our reading comprehension studies (Merisuo-Storm and Soininen 2012). Newspapers are an essential part of everyday life for most Finnish people. In 2008, almost 90% of Finnish families had subscribed to at least one newspaper. PISA found that the active reading of newspapers is related to good student reading skills in PISA test and that those students who read newspapers seldom or never prove to have poor reading skills (Linnakylä and Malin 2007). In our study, a total of 619 pupils (287 boys and 332 girls) read a newspaper article published in a local newspaper. The title of the article is "Sea Archaeological Sensation. Swedish Scientists Found a Well-preserved Dutch Ship from the seventeenth Century at the Bottom of the Baltic Sea." According to the article, many shipwrecks lie at the bottom of the Baltic Sea. They are well-preserved because the Baltic Sea has no shipworms which, in other seas, destroy wooden ships. After reading the article, students answered ten questions and explained the ten words underlined in the text.

Once again, results show that, in contrast to girls, boys did not want to reread the story in order to find a correct answer. Girls gave acceptable answers significantly more often ($t = 2.84$, $p = 0.005$) to those questions that could be answered with information found almost at the beginning of the article. The results of this study confirm the fact found in the study described above that, still in the sixth grade, many pupils have poor inferential reasoning skills. When they were asked *why are there so many Dutch shipwrecks in the Baltic Sea?,* only 59% of students gave a correct answer that included one of the following ideas: *Holland was a leading merchant and sea state in the seventeenth century* or *there were a great number of Dutch ships sailing in the Baltic Sea* or *they built a great number of ships in Holland*. However, several pupils gave answers that could not be accepted, for instance; *Dutch ships were so bad* or *because they sank.* There was no significant difference between boys' and girls' scores in the question section.

However, girls succeeded better than boys in explaining almost all words. The most difficult concept to explain was *jalostettuja tuotteita* (refined products). Only 18% of the pupils offered a correct explanation. The task was demanding because the context does not reveal the full meaning of the word although it presents some cues. The concept is found in the following sentence: "Textiles, salt, wine, and other refined products were imported into Finland". Students had to link the concept to the products mentioned at the beginning of the sentence and consider what they have in common. Similarly, the text does not give explicit cues about the meaning of the word *sensaatio* (sensation), and only 42% of the pupils gave a correct explanation. The word is in the following sentence: "This find is a sea-archaeological as well as a historical sensation, because it is so well preserved".

In both sections of the test, the pupils' aggregated scores varied from 0 to 10. The mean in the question section is 7.1 (SD = 2.0) and in the word explaining section 4.9 (SD = 2.7). The difference between pupils' scores of the two sections is significant ($t = 22.2$, $p = 0.000$). This indicates that deriving the meaning of a word from a written context is still very difficult for many pupils in sixth grade. However, there is a strong correlation between the pupils' success in explaining the words and their success in answering the questions ($r = 0.500^{**}$, $p = 0.000$). Ninety per cent of the

pupils who performed poorly when answering the questions (0–4 correct answers) had equally poor scores in the word section of the test.

Results presented above show that there are pupils who, after six school years, still have great difficulties in reading comprehension, especially for informational texts. We considered it worthwhile to assess sixth graders' ability to understand the textbooks that they use at school. Altogether, 247 (125 boys and 122 girls) pupils took part in the study. About half of them read a text about whales in their natural science book and the other half read a text about the Great Wall of China in their history book. After reading the text, pupils answered ten questions and explained the meaning of ten words underlined in the text.

In the questionnaires related to both textbook chapters there were four questions with answers directly found in the texts, five questions required combining different pieces of information from the text or making inferences, and one question required deeper understanding and reasoning. In both groups, pupils had no difficulties in answering those questions with answers directly found in the texts. However, many pupils failed to answer the more demanding questions correctly. For the pupils in the history book group, the most difficult question was: *Why did they not believe what Marco Polo said about China?* Only 2% of them succeeded in finding a correct answer, for example, *China was in many aspects more advanced than the European countries and their inventions were unfamiliar to the Europeans*. This question proved to be even more difficult than the question that required deeper understanding of the text and personal reasoning: *Why was it a heavy blow to Chinese culture that the Mongolians became the rulers of China?* Only 11% of students could answer this question correctly. The best example of a correct answer was: *Chinese people had been able to live in peace. Now Mongolians were able to change their culture and customs because the most important offices were held by the Mongolians*. For the natural science group, the most difficult question was: *In what way has the number of whales varied and what are the reasons behind this variation?* Only 9% of students gave a correct answer that included all three pieces of information needed and found in the text.

In both groups, girls succeeded significantly better than boys in answering the questions (history book group $t = 2.73$, $p = 0.008$; natural science group $t = 3.57$, $p = 0.000$). In the natural science group, the two pupils who answered all questions correctly were both girls. In the history group, 38% of boys and 7% of girls answered less than half of the questions correctly. A good example of the girls' better skills is that, while one third of the girls (33%) understood why there were many towers on the Great Wall, only 10% of the boys gave a correct explanation. All in all, the text in the history textbook proved to be more difficult to understand—for both girls and boys—than the text in the natural science book. In the history book questionnaire, there were four questions that less than one third of the pupils could answer correctly. In the natural science book questionnaire, there was only one equally difficult question. Although pupils in Finland have hardly ever seen whales, many pupils—especially girls—are interested in animals. Therefore, they have background information that helps them understand those types of text that the natural science book includes. The contents of the history textbook were more difficult to understand.

Consequently, students need teacher's guidance especially when reading their textbooks during history lessons. For instance, it was surprising that 61% of pupils could not answer the question: *Where did the Silk Road to China begin?* This was so even when the last page of the chapter included a map where the road was clearly marked. Equally surprising was that, in the natural science group, two thirds of the pupils (66%) did not understand the meaning of the title of the chapter. Only one third of the pupils (33%) answered the question correctly (*What does the title of the chapter 'The Giants of The Pacific' mean?*) although the text mentioned, for example, that the blue whales can be over 30 m long and weigh 150,000 kg.

As in the study described above, results of this study also show that deriving the meaning of a word from a written context is still difficult for many pupils in sixth grade. Similarly, the same pupils succeeded best in both, answering the questions and explaining the words. There is a strong correlation between these two tasks (*0.390**, p.000). It was disquieting to notice that both textbooks included several words that were not familiar to most students. They could not infer the meanings of these words from the context either. In the history book wordlist, there were only two words that more than 70% of the pupils had explained correctly. Four words were too difficult for half the students and four words for more than 40% of them. Only 3% of the pupils explained all words correctly and 5% could not explain any of them at all. This could make understanding of the whole chapter impossible for them. Although the girls' results in the history book group were slightly better than the boys' results (max.10; girls: mean 5.4, SD 2.2; boys: mean 4.6, SD 2.4) in word explaining, the difference between the two genders was not significant.

On the other hand, in the natural science book group girls succeeded notably better than boys (max. 10; girls: mean 6.2, SD 2.20; boys: mean 4.58, SD 2.39). The difference between the two genders was significant ($t = 2.70$, $p = 0.008$). Although the words in the natural science book seemed to be easier to explain than those in the history book many pupils had difficulties in understanding them too. In the natural science book wordlist, there were four words that more than 70% of the pupils explained correctly. Four words were too difficult for half the students and two words could be explained by 50–60% of the pupils. Only 3% of the pupils explained all words correctly and 2% could not explain any of them.

Results show that students need help when reading the textbooks that are used in content area classes. In this study, especially the sixth grade history textbook seemed to be too difficult for many pupils. Consequently, students should be taught how to read textbooks from the different school subjects. They should learn to choose the best strategies for reading various types of texts. The textbooks of different school subjects may be constructed differently and contain dissimilar vocabulary and conceptual frameworks. The results of the study described above show that when reading non-fiction text, sixth graders have great difficulties in determining what the main ideas in a text are. Instead, trivial details in the text caught several readers' attention. Therefore, it is important to teach pupils how to identify main ideas when reading a text. That would make understanding easier. In addition, students also need to be taught how context helps to understand the meaning of an unfamiliar word. They should learn what kind of cues a text might provide and how to find

those cues. Although this research did not analyze books as material objects, we think that publishers should also be aware of the kind of text that is suitable for pupils in different grades. If, for example, language is too complicated, the text includes too many unfamiliar words, and the layout does not support understanding, the idea of the text can remain unclear for a young reader.

## 9.5 Reading Attitudes

The differences in girls' and boys' literacy skills are mainly due to their different attitudes towards reading and writing as the development of these skills is closely related to extensive reading engagement. Different attitudes derive from gender dissimilarities in values, goals, and out-of-school activities. To bridge the gender gap, teachers should find new ideas that seek to attract boys' engagement in literary culture and that help them find pleasure in reading (Välijärvi et al. 2007).

Attitudes tend to develop early in a child's life and upbringing has a crucial role in the development process. When children see their parents reading and writing they learn to understand that these activities are an essential part of human life (Bråten et al. 1997; Neuman et al. 2008). At home, children also adopt ideas of how central reading is in the life of men and women. If they see only their mothers reading and writing, they may regard them as feminine activities. In addition, parents' expectations of the development of their sons' and daughters' reading skills may be different. They may think that it is natural that girls learn to read more easily than boys and boys have more negative attitudes towards reading than girls (Millard 2003).

When children develop a positive attitude towards reading already before school age, and through its influence on their engagement and practice, this will have a positive effect on the future development of their literacy skills (LaCour et al. 2013; McKenna et al. 1995). They value reading, and want to explore different literacy situations, and have reasons to use reading in a meaningful way (Brozo et al. 2008; Wigfield et al. 2008). However, already during Kindergarten, boys' motivation to read has been found to be significantly lower than girls' (Mata 2011). In school, boys' low motivation seems to be especially related to the value they place in reading activities. Of the pupils with average skills, boys value less the time spent in reading and in social interactions about books than girls (Marinak and Gambrell 2010). Many boys regard school literacy as 'un-masculine' and thus, unattractive (Alloway et al. 2002).

There is a great need for new ideas that strive to attract interest and engagement among boys in literary culture and help them find pleasure in reading (Välijärvi et al. 2007). It is important to explore what types of learning environments are motivating, especially for boys, and what kind of reading instruction is efficient in focusing their attention. It has been found that during school years, pupils' investment in schoolwork declines. For some students, again especially boys, this may be the result of lagging behind in school (Hornstra et al. 2013; Logan and

Johnston 2010). When the objective is to break through the decline of reading motivation when children grow older, the focus should be on enhancing autonomous reasons for reading, which means that children read simply because they enjoy it. However, one has to keep in mind that children may have different incentives for reading, i.e. different when reading during their leisure time or at school. Even if they do not have spontaneous interest in reading but consider reading is a relevant activity they can be motivated to engage in doing so. It is possible to create a positive reading climate among pupils if teachers give them opportunities to make choices, offer good reasons for doing things, recognise pupils' interests, and give them support and help when they need it (De Naeghel et al. 2012).

## 9.6 Reading Attitudes, Reading Comprehension Skills, and Self-Esteem

The goal of our study was to examine what kind of self-esteem, reading skills, and reading attitudes first and second graders have and also, if boys and girls differ in these aspects (Merisuo-Storm and Soininen 2012). While the focus in this chapter is on pupils' reading attitudes we will, in addition, present what kind of interdependence was found between these three areas. Results on self-esteem measurement and reading comprehension are presented in our articles published in 2014 (Merisuo-Storm and Soininen 2014; Soininen and Merisuo-Storm 2014).

To measure pupils' reading attitudes, we constructed a questionnaire including 17 questions for all pupils and five extra questions for second graders. The questionnaire covers four different areas: (1) attitudes towards reading; (2) attitudes towards studying; (3) attitudes towards social reading; and (4) feeling of competence. The scale used in the questionnaire is a Likert-type 1–4. As there are 17 questions in the questionnaire for first grade, thus a possible maximum score of 51. In the second grade questionnaire, the number of questions is 22 and the maximum score 66. Both instruments have a very good internal consistency with Cronbach's alpha of 0.90 for the first-grade-version and 0.89 for the second-grade-version. The measurement was done during the first weeks of the school year and 563 children (281 boys and 259 girls) took part in it. About half of the pupils studied in the first grade (n = 267; 136 boys and 131 girls) and the other half in the second grade (n = 296; 145 boys and 151 girls). At that time, students were 6–8 years old. When filling the questionnaire, pupils gave their opinions on several issues related to reading and literacy learning.

The questions were worded in such a manner so as to be unambiguous and easy to understand. When answering a question, pupils ticked one of the four teddy bears placed above the question that best illustrated his or her opinion about the inquiry. The expressions on the bear's faces are easy to understand (Fig. 9.1). The *very happy teddy bear* means that the pupil loves to do what he or she is asked about or considers it very easy, the *smiling teddy bear* means he or she does it with pleasure

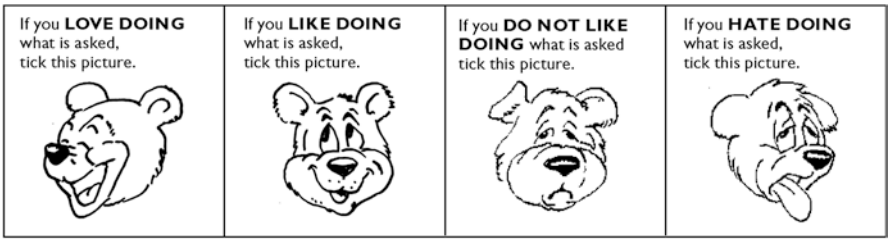


**Fig. 9.1** Four alternatives and pictures related to them (Merisuo-Storm and Soininen 2014)

or considers it easy, the *tired and unhappy teddy* bear means he or she would not want to do it or considers it difficult, and the *repulsed teddy bear* means he or she would hate to do it or considers it very difficult. The very happy teddy bear is assigned a score of three and the repulsed teddy bear receives a score of zero. In order to confirm that all pupils had understood what they were expected to do, the researcher and the class talked about how the teddy bear felt in each picture so as to set the common grounds. Moreover, under the supervision of the researcher, children answered one extra question before they started filling the questionnaire.

Results of the reading attitude measurement show that on average, both in the first and second grade, pupils' opinions about reading and reading-related activities is positive. However, in the first grade, boys' opinions are more negative than the girls' opinions ($t = -4.81$, $p = 0.000$), yet the difference is not significant in second grade. While in the first grade questionnaire the maximum aggregated score is 51, the mean value of the boys' scores is 35.0 (SD 11.1) and the mean value of the girls' scores is 40.7 (SD 8.2). More than half of the girls (56%) and more than one third of the boys (39%) have very positive attitudes (51–40 scores). Only five boys (4%) and one girl (1%) have very negative attitudes (0–10 scores). In the second grade questionnaire, the maximum aggregated score is 66. The mean value of the boys' scores is 47.4 (SD 11.4) and of the girls' scores is 50.1 (SD 9.6). One quarter of the boys (24%) and more than one third of the girls (38%) have very positive attitudes towards reading (66–55 scores). Only three boys (2%) and one girl (1%) have very negative attitudes (15–20 scores).

Almost half of the students love reading in general. The goal of the first part of the questionnaire was to find out what reading materials and reading-related activities children like best. Both girls and boys offer the most positive answers when they were asked about visiting a library. Almost all pupils (96%) ticked one of the two favorable alternatives. Their answers also show that girls' opinions about getting a book as a present and reading stories or fairy tales are more positive than the boys' opinions. In the first grade, a 13% of boys and a 6% of them in second grade state that they would hate getting a book as a present. Nevertheless, boys enjoy reading comics and non-fiction books (Fig. 9.2).

The purpose of the second part of the questionnaire was to find out what kind of attitudes pupils have towards studying. They prove to be slightly less positive than the attitudes towards reading. Furthermore, at the beginning of first grade, girls have

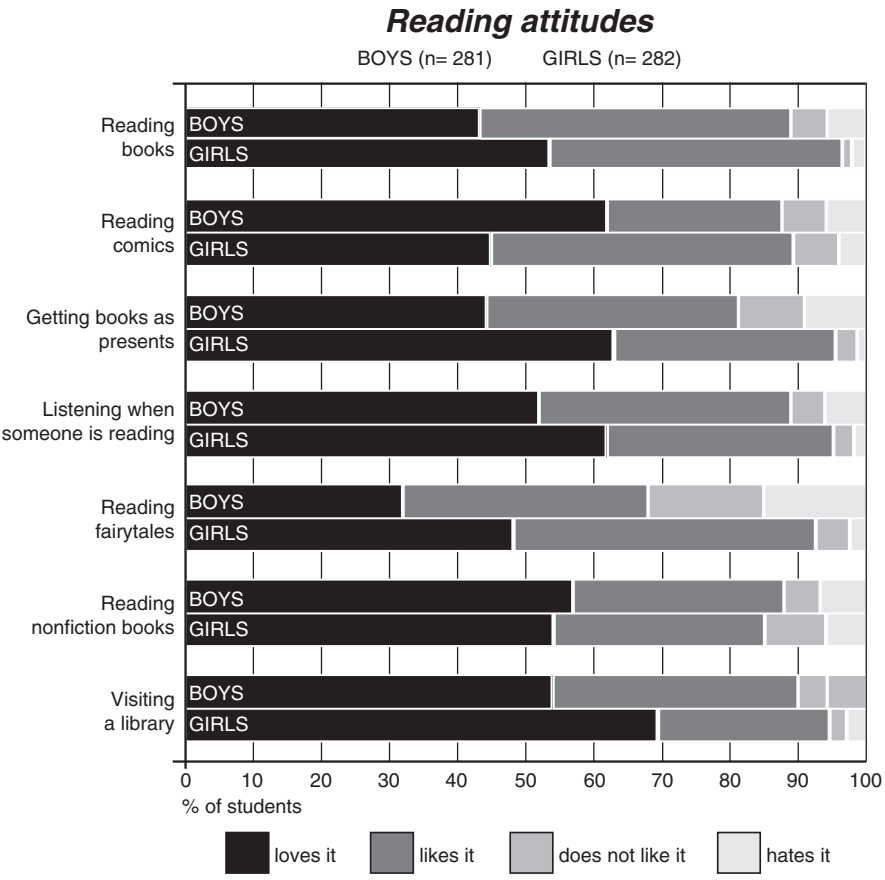


**Fig. 9.2** Boys' and girls' reading attitudes

noticeable more positive attitudes towards studying than boys, but in the second grade the difference between the two genders is not significant. However, there are still boys and girls who do not like to study at all. First graders like to do *exercises in literacy lessons* more often than second graders. However, by autumn of the first school year, one quarter of the boys (24%) and an 8% of the girls have already learned to hate them. In the second grade, 33% of the boys and 18% of the girls hate them. The difference between the two genders is significant in both grades. In both grades pupils like *homework* even less and boys dislike them more than girls. In the first grade, 25% of the boys and 7% of the girls, and in the second grade 20% of the boys and 11% of the girls hate them (Fig. 9.3).

Pupils' attitudes towards *social reading* were measured, for example, with questions such as: *Do you like to talk about books with other pupils? Do you like to talk about a book you have read to other pupils? Do you like to do exercises in literacy lessons with another pupil? Do you like to read aloud in class?* In both grades, girls

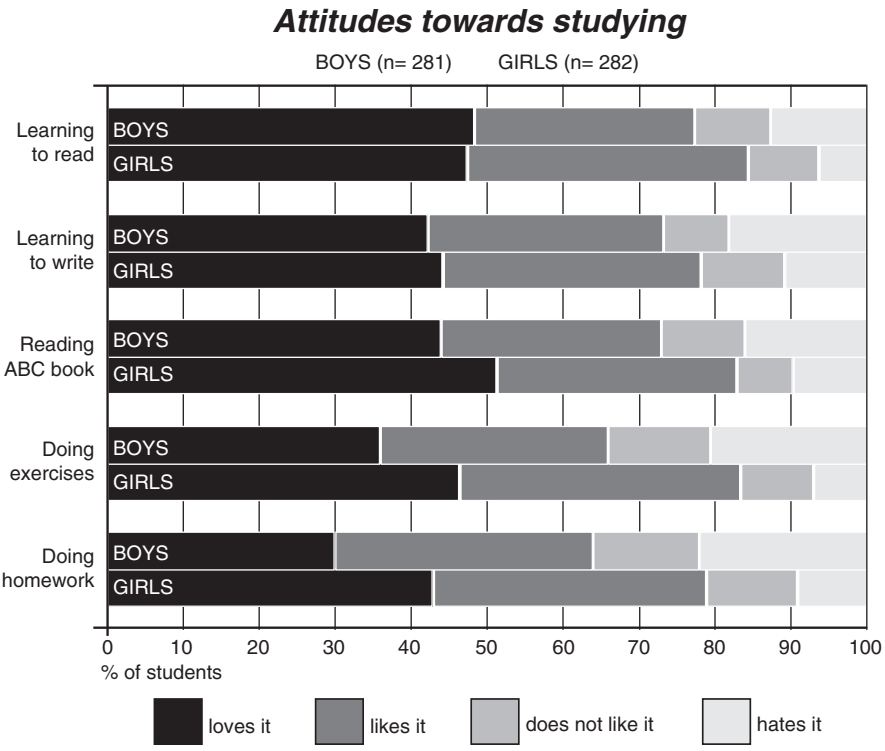


**Fig. 9.3** Boys' and girls' attitudes towards studying

have significantly more positive attitudes towards social reading than boys. They are, for example, noticeably more willing to do exercises with another pupil ($t = -4.12$, $p = 0.000$; $t = -3.18$, $p = 0.002$). Only one quarter of the boys and about one third of the girls love to read aloud in class. Some of the children (23% of the boys and 12% of the girls) found it frightening and claim that they hate it. The result is similar to those of several other studies (Eriksson 2002; Merisuo-Storm 2006). Those children who most enjoy talking about a book to other pupils (34% of students) are the same ones who also love to talk about books with them. There is a strong correlation between the answers of these two questions ($r = 0.585^{**}$, $p = 0.000$) (Fig. 9.4).

The purpose of the last part of the questionnaire was to find out how strong the pupils' feeling of reading competence is. They were asked how easy it was (or had been) to learn to read and how easy it was to read, understand, and remember the texts they had read. There is very little difference in the girls' and the boys' opinions during the learning process in the first grade. Almost half of the first graders (45% of the boys and 49% of the girls) found learning very easy. However, 17% of the boys and 4% of the girls said that it was very difficult. In the second grade, 42% of the boys and 37% of the girls remembered that learning had been very easy and only

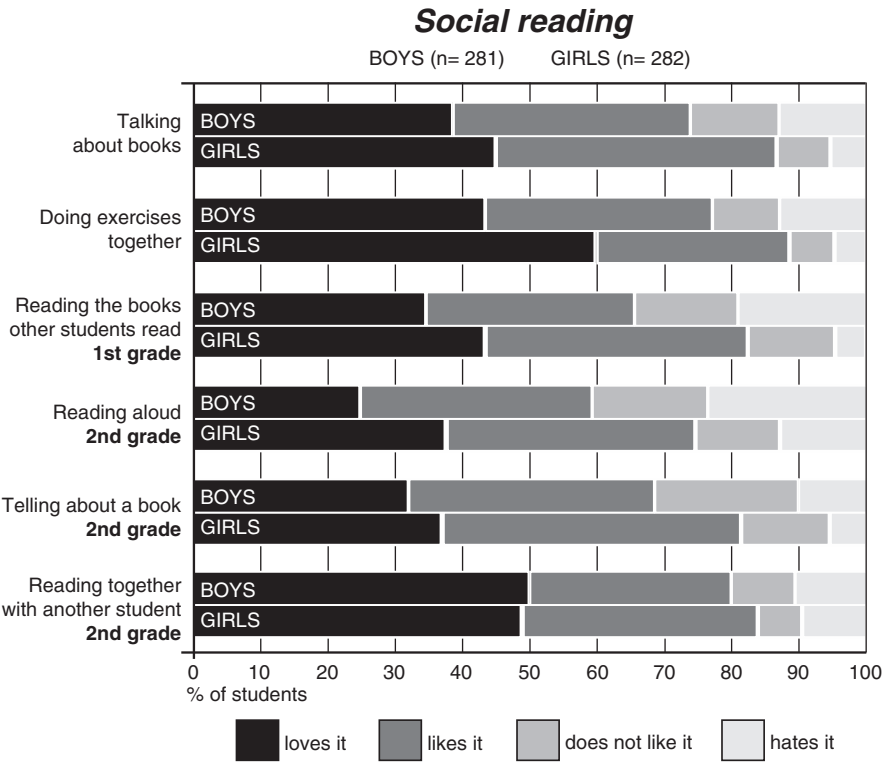


**Fig. 9.4** Boys' and girls' attitudes towards social reading

4% of the boys and 3% of the girls remembered that they had had great difficulties in learning. In the second grade, the boys assessed their reading skills higher than the girls. Most of the pupils (81% of the boys and 75% of the girls) stated that reading was very easy. Only 6% of the boys and 2% of the girls found it difficult or very difficult. In addition, about half of the pupils considered understanding the texts they read at school to be very easy (54% of the boys and 49% of the girls). However, 13% of the boys, as well as of the girls, found it difficult or very difficult. According to students' opinion, the most difficult task was to remember the contents of a text they had read. Only about one third of the pupils thought it was very easy. About one quarter of them found it difficult or very difficult (Fig. 9.5).

It is interesting to compare boys' and girls' opinions on their reading skills with the results of the reading comprehension test mentioned above. It is obvious that boys have high confidence in their reading skills. However, the reading comprehension test shows that they assess their skills better than they actually are. On the contrary, girls assess their skills much more realistically. It is also interesting that although boys value reading and reading-related activities less than girls, their feeling of reading competence is higher than the girls'. Similarly, Logan and Johnston (2010) found that boys assess their literacy skills higher than they actually

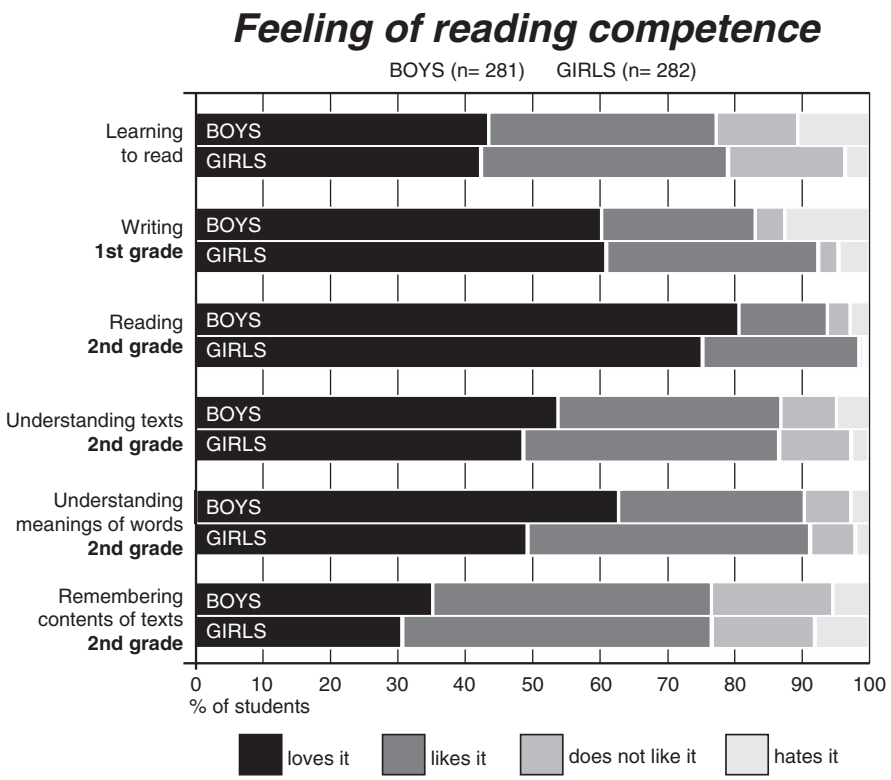


**Fig. 9.5** Boys' and girls' feeling of reading competence

are. In addition, they found that only boys' reading ability was associated with their reading attitude. When boys succeed in something, their attitudes towards it improve. Therefore, experiencing success is particularly important for those boys whose reading skills are poor. In our study, the feeling of reading competence is evidently related to their attitudes towards studying, especially for boys ($r = 0.413^{**}$, $p = 0.000$). There is a strong correlation between all the other sections of the reading attitude questionnaire as well. Students who have a positive attitude towards reading also enjoy studying ($r = 0.594^{**}$, $p = 0.000$) and social reading ($r = 0.605^{**}$, $p = 0.000$). Similarly, pupils who have a positive attitude towards studying like to do reading-related activities with other students ($r = 0.723^{**}$, $p = 0.000$).

When comparing the results of all three measurements mentioned above there is a strong correlation between pupils' self-esteem, reading attitudes, and reading comprehension skills. Students who have good self-esteem also seem to have a positive attitude towards reading ($r = 0.419^{**}$, $p = 0.000$) and good reading comprehension skills ($r = 0.320^{**}$, $p = 0.000$). These pupils are also happy to do reading-related activities with other students ($r = 0.340^{**}$, $p = 0.000$). It seems that for the boys, good self-esteem is even more closely related to their attitudes towards studying ($r = 0.453^{**}$, $p = 0.000$) than it is for the girls ($r = 0.323^{**}$, $p = 0.001$).

## 9.7 Conclusion

Results described above show that, in several ways, boys and girls are different readers. In first grade, boys have more concentration difficulties than girls, and this hinders their success, especially in memory tasks. The reading comprehension measurements show that boys are more inclined to avoid rereading the story and thus, offer incorrect answers or explanations to questions. Furthermore, girls put more effort than boys in looking for details in the text. In each grade, a considerable amount of students have not yet reached the inferential level of comprehension where a reader is able to draw inferences. They seem to be unable to connect the information from different parts of the text.

When reading stories, girls understand the characters' personalities and feelings more easily than boys. In addition, they also pay more attention to the setting where characters live. Boys seem to focus their attention more on the events of the story. Still in the sixth grade, the difference between the two genders' ability to answer those questions that demand this kind of sensitivity is significant. It seems that during the first school years, pupils do not get many opportunities to read informational texts at school. Narrative text proved to be significantly easier for them to understand than informational text. Consequently, many sixth graders, particularly boys, have difficulties in understanding texts in their textbooks. More than one third of the pupils do not pay attention to pictures, photos, and titles on their textbook pages. They do not understand that they also provide useful information about the topic. Similarly, they do not pay attention to the titles of the chapters and do not understand that these titles can have simultaneous concrete and abstract meanings.

Summarising seems to be the most difficult task for sixth graders. Girls are more successful than boys in this as well. Several pupils cannot identify the main ideas in a text and resort to the repetition of facts, even trivial ones. They are not able to combine similar ideas into one sentence. However, after reading a text in school, students are frequently expected to remember main ideas and concepts found in the texts. Due to the fact that summarising is a demanding task, it needs plenty of practice that perhaps children are not exposed to.

Deriving the meaning of an unknown word from context was, for a great number of pupils still in the sixth grade, an insurmountable task. Again, girls are more successful than boys at it. Because students often offer explanations words have in other contexts, it is obvious that they are not able to use textual cues provided. In addition, they do not consider if the meaning they give for a word matches the contents of the text. Sixth graders seem to have textbooks that include several words that are not familiar to most of them. They cannot infer the meanings of these words from context either. Results show that pupils need to be taught how to read the textbooks used in the several content area classes at school.

Results of the reading attitude measurement show that while in the first and the second grade, pupils' opinions about reading and reading-related activities are, on average, positive but boys' opinions are significantly more negative than girls'.

Although boys are more often disappointed than girls if they get a book as a present, they enjoy reading comics and nonfiction books. A quarter of the boys in first grade and one third of them in second grade hate exercises they do during literacy lessons. The difference between the two genders is significant in both grades.

Students like homework even less, with boys disliking it noticeably more than girls. Girls, in turn, have significantly more positive attitudes towards social reading than boys as they were, for example, more willing to read or do exercises with other students. However, boys' confidence in their reading skills tends to be higher than the girls'. In second grade, most of them seem to have forgotten all the difficulties that they had when learning to read. According to Logan and Johnston (2010), when boys succeed in something, their attitude towards it improves. This may explain the positive change in the boys' attitudes towards reading from the first to the second grade. While the boys' attitudes are significantly more negative in the first grade, during second grade there is no difference in boys' and girls' attitudes. As was mentioned above, it is especially important to offer frequent and small experiences of success to those boys whose reading skills are particularly poor.

In Finland, and similarly in many other countries, most teachers are women. Consequently, in most cases, teachers who choose reading materials and plan literacy exercises are female. It would be important that they incorporate boys' interests in reading material choices. Pupils should experience individual tasks appealing to them and meaningful in their experience. In addition, they should not be doing assignments of the same kind day after day. A large variety of different tasks motivates and broadly develops pupils' skills. Students, especially boys, do not want to do tasks that they do not consider worthwhile. Teachers could plan exercises and homework together with pupils. Boys might want to read, for instance, articles in sports magazines, user's manuals of some device they use, TV-guides, or graphic novels, hence engaging with pleasure in the reading exercises. Interesting tasks develop pupils' reading skills and positive attitudes much more effectively than tasks they find unattractive. It is possible to create a positive reading climate among students if teachers give them opportunities to make choices, offer good reasons for doing things, recognise pupils' interests and level of reading proficiency, and offer the support and help they need.

Students' self-esteem has a strong effect on their learning and attitudes. This is the case especially for boys. Results of our study show that girls' self-esteem is significantly better than the boys'. This may be the reason why boys' attitudes towards social reading, doing exercises with another pupil, and reading aloud in the class, are particularly more negative than the girls'. Children who are confident and happy with who they are and those who get along well with their peers enjoy studying much more, even more than those children who are meticulous or have a high feeling of competence. Furthermore, results for PISA 2012 indicate that in order to fulfil one's potential, one needs determination, motivation, and self-confidence. Together with the fact that it is important for first and second graders to develop good reading skills, lies the possibility that learning to read has a strong positive effect on young students' self-esteem. Therefore, it is essential that teachers support the positive development of each student's self-esteem as well as reading skills and attitudes.

## References


Alloway, N., Freebody, P., Gilbert, P., & Muspratt, S. (2002). *Boys, literacy and schooling. Expanding the repertoires of practice*. Canberra: Commonwealth of Australia.

Ball, C., & Gettinger, M. (2009). Monitoring children's growth in early literacy skills: Effects of feedback on performance and classroom environments. *Education and Treatment of Children, 32*(2), 189–212.

Best, R. M., Floyd, R. G., & McNamara, D. S. (2008). Differential competences contributing to children's comprehension of narrative and expository texts. *Reading Psychology, 29*, 137–164.

Bimmel, P., & van Schooten, E. (2004). The relationship between strategic reading activities and reading comprehension. *L1-Educational Studies in Language and Literature, 4*(1), 85–102.

Blair-Larsen, S. M., & Vallance, K. M. (2004). Comprehension instruction in a balanced reading classroom. In S. M. Blair-Larsen & K. A. Williams (Eds.), *The balanced reading program: Helping all students achieve success* (pp. 37–52). Newark: International Reading Association.

Bråten, I., Lie, A., & Andreassen, R. (1997). *Home literacy environment, leisure time reading, and orthographic processing among Norwegian elementary school children*. Oslo: University of Oslo, Institute for Educational Research.

Brozo, W. G., Shiel, G., & Topping, K. (2008). Engagement in reading: Lessons learned from three PISA countries. *Journal of Adolescent & Adult Literacy, 51*(4), 304–315.

Bryce, N. (2011). Meeting the reading challenges of science textbooks in the primary grades. *Reading Teacher, 64*(7), 474–485.

Cain, K. (2007). Deriving word meanings from context: Does explanation facilitate contextual analysis? *Journal of Research in Reading, 30*(4), 347–359.

Coiro, J., & Dobler, E. (2007). Exploring the online reading comprehension strategies used by sixth-grade skilled readers to search for and locate information on the internet. *Reading Research Quarterly, 42*(2), 214–257.

De Naeghel, J., Van Keer, H., Vansteenkiste, M., & Rosseel, Y. (2012). The relation between elementary students' recreational and academic reading motivation, reading frequency, engagement, and comprehension: A self-determination theory perspective. *Journal of Educational Psychology, 104*(4), 1006–1021.

Dougherty Stahl, K. A. (2004). Proof, practice, and promise: Comprehension strategy instruction in the primary grades. *The Reading Teacher, 57*(7), 598–609.

Duke, N. K., & Martin, N. M. (2008). Comprehension instruction in action. In C. C. Block & S. R. Parris (Eds.), *Comprehension instruction, research-based best practices* (pp. 241–257). New York: Guilford Press.

Eriksson, K. (2002). Booktalk dilemmas: Teachers' organisation of pupils' reading. *Scandinavian Journal of Educational Research, 46*(4), 391–408.

Fang, Z. (2008). Going beyond the fab five: Helping students cope with the unique linguistic challenges of expository reading in intermediate grades. *Journal of Adolescent & Adult Literacy, 51*(6), 476–487.

Farrington, P. (2007). Using context cues: Children as reading detectives. *Literacy Today, 51*, 8–9.

Fisher, R. (2002). Boys into writing: Raising boys' achievement in writing. In M. Williams (Ed.), *Unlocking writing. A guide for teachers* (pp. 141–159). London: David Fulton Publishers.

Francis, B. (2010). Gender, toys and learning. *Oxford Review of Education, 36*(3), 325–344.

Garber-Miller, K. (2006). Playful textbook previews. *Journal of Adolescent & Adult Literacy, 50*(4), 284–288.

Guo, Y., Justice, L. M., Kaderavek, J. N., & McGinty, A. (2012). The literacy environment of preschool classrooms: Contributions to children's emergent literacy growth. *Journal of Research in Reading, 35*(3), 308–327.

Guthrie, J. T., & Klauda, K. L. (2012). Making textbook reading meaningful. *Educational Leadership, 69*(6), 64–68.

Hornstra, L., van der Veen, I., Peetsma, T., & Volman, M. (2013). Developments in motivation and achievement during primary school: A longitudinal study on group-specific differences. *Learning and Individual Differences, 23*(1), 195–204.

Hurry, J., & Doctor, E. (2007). Assessing literacy in children and adolescents. *Child and Adolescent Mental Health, 12*(1), 38–45.

Kuhn, M. R., Schwanenflugel, P. J., & Meisinger, E. B. (2010). Aligning theory and assessment of reading fluency: Automaticity, prosody, and definitions of fluency. *Reading Research Quarterly, 45*(2), 230–251.

Kupari, J., Sulkunen, S., Vettenranta, J., & Nissinen, K. (2012). Enemmän iloa oppimiseen Neljännen luokan oppilaiden lukutaito sekä matematiikan ja luonnontieteiden osaaminen. Kansainväliset PIRLS-ja TIMSS-tutkimukset Suomessa. [More joy for learning. Fourth graders' reading, mathematical and science skills. International PIRLS and TIMSS assessments in Finland] Jyväskylän University of Jyväskylä, Finnish Institute for Educational Research

LaCour, M. M., McDonald, C., Tissington, L. D., & Thomason, G. (2013). Improving prekindergarten children's attitude and interest in reading through a parent workshop on the use of dialogic reading techniques. *Reading Improvement, 50*(1), 1–11.

Linnakylä, P., & Malin, A. (2007). Reading newspapers supports lifewide learning and active citizenship. In P. Linnakylä & I. Arffman (Eds.), *Finnish reading literacy. When quality and equity meet* (pp. 231–248). Jyväskylä: Jyväskylä University of Jyväskylä. Institute for Educational Research.

Logan, S., & Johnston, R. (2010). Investigating gender differences in reading. *Educational Review, 62*(2), 175–187.

Marinak, B. A., & Gambrell, L. B. (2010). Reading motivation: Exploring the elementary gender gap. *Literacy Research and Instruction, 49*(2), 129–141.

Mata, L. (2011). Motivation for reading and writing in kindergarten children. *Reading Psychology, 32*(3), 272–299.

McKenna, M. C., Kear, D. J., & Ellsworth, R. A. (1995). Children's attitudes toward reading: A national survey. *Reading Research Quarterly, 30*, 934–956.

McLaughlin, M. (2006). *Guided comprehension in the primary grades*. Newark: International Reading Association.

Merisuo-Storm, T. (2006). Girls and boys like to read and write different texts. *Scandinavian Journal of Educational Research, 50*(2), 111–125.

Merisuo-Storm, T. (2007). The development of writing skills of boys and girls during six school years. *Nordisk Pedagogik, 27*(4), 373–385.

Merisuo-Storm, T. (2010). Primary school students' reading comprehension skills. In NIOERAR (Ed.), *Educational theory and practice in Finland* (pp. 267–286). Taipei: The National Institute of Educational Resource and Research.

Merisuo-Storm, T., & Soininen, M. (2010). Primary school pupils deriving word meaning from written context. *Procedia Social and Behavioral Sciences, 2*(2), 1625–1629.

Merisuo-Storm, T., & Soininen, M. (2011). Developing an intervention program to improve young pupils' reading comprehension skills. *Proceedings of ICERI2011 Conference*, pp. 4974–4981.

Merisuo-Storm, T., & Soininen, M. (2012). Constructing a research-based program to improve primary school students' reading comprehension skills. *International Journal for Cross-Displinary Subjects in Education, 3*(3), 755–762.

Merisuo-Storm, T., & Soininen, M. (2014). The interdependence between young students' reading attitudes, reading skills, and self-esteem. *Journal of Educational and Social Research, 4*(2), 122–130.

Millard, E. (2003). Gender and early childhood literacy. In N. Hall, J. Larson, & J. Marsh (Eds.), *Handbook of early childhood literacy* (pp. 22–33). London: SAGE Publications.

Mullis, I. V. S., Martin, M. O., Kennedy, A. M., Trong, K. L., & Sainsbury, M. (2009). *PIRLS 2011 Assessment Framework*. Amsterdam: International Association for the Evaluation of Educational Achievement (IEA).

Neuman, S. B., Koh, S., & Dwyer, J. (2008). CHELLO: The child/home environmental language and literacy observation. *Early Childhood Research Quarterly, 23*(2), 159–172.

Nithart, C., Demont, E., Metz-Lutz, M.-N., Majerus, S., Poncelet, M., & Leybaert, J. (2011). Early contribution of phonological awareness and later influence of phonological memory throughout reading acquisition. *Journal of Research in Reading, 34*(3), 346–363.

OECD. (2013). PISA 2012 results in focus. In *What 15-year-olds know and what they can do with what they know*. Paris: OECD.

Pardo, L. S. (2004). What every teacher needs to know about comprehension. *The Reading Teacher, 58*(3), 272–280.

Parker, M., & Hurry, J. (2007). Teachers' use of questioning and modelling comprehension skills in primary classrooms. *Educational Review, 59*, 299–314.

Pufpaff, L. A. (2009). A developmental continuum of phonological sensitivity skills. *Psychology in the Schools, 46*(7), 679–691.

Reutzel, D. R., Smith, J. A., & Fawson, P. S. (2005). An evaluation of two approaches for teaching reading comprehension strategies in the primary years using science information texts. *Early Childhood Research Quarterly, 20*, 276–305.

Scharer, P. L., Pinnell, G. S., Lyons, C., & Fountas, I. (2005). Becoming an engaged reader. *Educational Leadership, 63*(2), 24–26.

Schellings, G., Aarnoutse, C., & van Leeuwe, J. (2006). Third-grader's think-aloud protocols: Types of reading activities in reading an expository text. *Learning and Instruction, 16*, 549–568.

Soininen, M., & Merisuo-Storm, T. (2014). Pupils' self-esteem in the early years of education within different interventions. *Journal of Educational and Social Research, 4*(2), 83–89.

Suggate, S. P., Schaughency, E. A., & Reese, E. (2013). Children learning to read later catch up to children reading earlier. *Early Childhood Research Quarterly, 28*, 33–48.

Swanson, E., Edmonds, M. S., Hairrell, A., Vaughn, S., & Simmons, D. C. (2011). Applying a cohesive set of comprehension strategies to content-area instruction. *Intervention in School & Clinic, 46*(5), 266–272.

Tomesen, M., & Aarnoutse, C. (1998). Effect of an instructional programme for deriving word meanings. *Educational Studies, 24*(1), 107–128.

Välijärvi, J., Kupari, P., Linnakylä, P., Reinikainen, P., Sulkunen, S., Törnroos, J., & Arffman, I. (2007). *The Finnish success in PISA – and some reasons behind it 2*. Jyväskylä: University of Jyväskylä, Finnish Institute for Educational Research.

Wallace, C. (1992). *Reading*. Oxford: Oxford University Press.

Weigel, D. J., Martin, S. S., & Bennet, K. K. (2010). Pathways to literacy: Connections between family assets and preschool children's emergent literacy skills. *Journal of Early Childhood Research, 8*(1), 5–22.

Wigfield, A., Guthrie, J. T., Perencevich, K. C., Taboada, A., Klauda, S. L., McRae, A., & Barbosa, P. (2008). Role of reading engagement in mediating effects of reading comprehension instruction on reading outcomes. *Psychology in the Schools, 45*(5), 432–445.

Williams, J. P., Hall, K. M., Lauer, K. D., Stafford, K. B., DeSisto, L. A., & deCani, J. S. (2005). Expositary text comprehension in the primary grade classroom. *Journal of Educational Psychology, 97*, 538–550.

# Part III
# Methodological Approaches To Reading Motivation

# Chapter 10
# Literacy Achievement and Motivation Reconsidered: Linking Home and School Literate Practices for Struggling Adolescent Males

**William G. Brozo**

**Abstract** In this chapter I focus on the literate practices of low-achieving male adolescent readers. I do so by tracking the literate development of "Malik," a biracial urban 10th grader with a history of academic failure and an active participant in the "mediasphere" (O'Brien DG "At-risk" adolescents: redefining competence through the multiliteracies of intermediality, visual arts, and representation. Reading Online 4(11) (2001)). I argue that male youth, like Malik, are using and creating forms of discourse that could be acknowledged and appreciated in school settings. I further assert that when room is made in school for boys' out-of-school interests and literacies numerous opportunities arise for engaged reading (Brozo WG To be a boy, to be a reader: engaging teen and preteen boys in active literacy, 2nd edn. International Reading Association, Newark (2010); Brozo WG, Gaskins C Engaging texts and literacy practices for adolescent boys. In: Wood K, Blanton W (eds) Literacy instruction for adolescents: research-based practice. Guilford, New York, pp 170–186 (2009); Coles M, Hall C Boys, books and breaking boundaries: Developing literacy in and out of school. In W. Martino & B. Meyenn (Eds.), What about the boys? Issues of masculinity in schools. Buckingham, England: Open University, pp 211–221 (2001)). Engagement is a critical variable in the reading and academic lives of boys (Brozo WG, Gaskins C Engaging texts and literacy practices for adolescent boys. In: Wood K, Blanton W (eds) Literacy instruction for adolescents: research-based practice. Guilford, New York, pp170–186 (2009); Tatum AW. Engaging African American males in reading, Educational Leadership, 63, 44–49 (2006)). Lack of engagement with literacy is one of the most significant factors in accounting for boys' lower attainment in relation to girls (Brozo WG, Moorman G, Meyer C Wham! Teaching with graphic novels across the curriculum. Teachers College Press, New York (2014); Lietz P. Studies in Educational Evaluation, 32, 317–344

W. G. Brozo (✉)
George Mason University, Virginia, VA, USA
e-mail: wbrozo@gmu.edu



P. Orellana García, P. Baldwin Lind (eds.), *Reading Achievement and Motivation in Boys and Girls*, Literacy Studies 15,
https://doi.org/10.1007/978-3-319-75948-7_10

(2006)). We know that boys of all ages fail in reading more often than girls (National Center for Educational Statistics Trends in NAEP: long-term trend assessment average reading scale scores and score gaps for students age 17, by gender: 1971–2008 (2008); OECD PISA 2009 results: learning to learn—student engagement, strategies and practices, vol III (2010)) and dominate the roles in corrective and remedial reading programs (Hunsdader PD. Principal. 82, 52–54 2002). In spite of what we know about the importance of gaining and sustaining students' attention to reading and learning, teachers of male youth need ways of reversing the well-documented slump in achievement and motivation as they transition from primary to secondary school (Anderman EM, Maehr ML, Midgley C. declining motivation after the transition to middle school: Schools can make a difference, Journal of Research and Development in Education, 32, 131–147 (1999); Brozo WG. Thinking Classroom/ Peremena, 6, 48–49 (2005)). The fallout from this slump appears to affect boys disproportionately (Alliance for Excellent Education The high cost of high school dropouts: what the nation pays for inadequate high schools. Author, Washington, DC (2007); Brozo WG. To be a boy, to be a reader: Engaging teen and preteen boys in active literacy. International Reading Association, Newark, DE (2002)) and has the most negative consequences for boys of color (Fashola O. Educating African American males. Thousand Oaks, Press, CA: Corwin (2005); Tatum A. Harv Educ Rev 78(1):155–180 (2008)). I document how Malik appears to be a struggling reader and writer in school when the contexts for literacy and learning fail to engage him or honor his interests and discourses. On the other hand, Malik is a competent language user when composing and reciting original raps with his "wingmen," or when he's asked to participate in academic learning that channels his outside-of-school competencies. I will demonstrate in this chapter that there are texts and practices capable of reaching disengaged and struggling male readers, like Malik. Teachers can discover the literate practices male youth engage in with alternative texts and media beyond the classroom walls, such as music and graphic novels, and weave these texts and practices into their instructional routines.

**Keywords** Reading achievement · Literacy engagement · Male youth · Out-of-school interests

Consider the sharp contrasts in the following two scenarios of "Malik" (all names in this chapter are pseudonyms), a 16-year-old biracial youth attending an urban high school in the mid-Atlantic region of the United States. Malik is being raised by his mother, after his father left the family when he was in middle school. His father died recently from complications related to alcoholism. Malik's school is situated in an all-black neighborhood where youth of color comprise one-hundred-percent of the student body. Seventy-two-percent receive free and reduced fare lunches. Malik has been characterized by teachers and administrators as "unmotivated," "struggling," and occasionally "uncooperative," though generally "good natured."

## 10.1 Malik in School

In his English class Mrs. Garvey was continuing work on summarizing. She asked students to write their summaries based on an essay they had read the day before in their literature anthologies. Most students had their books, but Malik had left his in his locker and started asking students around him to borrow their books for the assignment. Mrs. Garvey told Malik to go to the back of room and find something from the stack of papers and magazines on the table. He shuffled slowly to the back and was taking a long time to settle on something when Mrs. Garvey insisted he take what was in his hands and return to his seat. While most students were writing their summaries, Malik was rustling through a newspaper. Mrs. Garvey demanded he find an article and begin writing his summary.

After 15 min, Mrs. Garvey asked students to stand up and read their summaries. When she got to Malik, he said he didn't have one written, but wanted to share his article anyway because it was "a lie". Mrs. Garvey told him to sit down and that he could share only when his summary was written. When Malik started arguing with her and other students started laughing, Mrs. Garvey sent him to the office. Malik told the assistant principal that all he wanted to do was talk about the article he read. He said it was about graffiti artists and that the mayor was using his gang task force to go after them. "But I know kids who do this," Malik said, "and the mayor is wrong. They're not with gangs. They do it because they like to, they're artists." He went on to tell the AP that Mrs. Garvey never allows him to express his opinions and ideas in class.

## 10.2 Malik at Home

"This beat ain't right," Malik tells Kwame and Jovan, stopping his rap after just a few lines. "It's gotta be more lazy for the mood I'm trying to create." "That's cause you lazy," Jovan quips, leaving the three of them laughing. Malik and his two friends are in a small room adjacent to Malik's bedroom that has become a makeshift recording studio. Kwame searches another website where they usually find the best beats and calls up a slower, almost jazzy one with a muted though emphatic bass. Jovan returns to the cheap Casio keyboard, the one he had since he was a kid, that he excavated from the back of his closet, and puts down a repeating pattern of chords to go with the beat. Malik, using the handle King Negus, smiles, shifts his head from side to side with the rhythm, and restarts his rap:

One plus two plus three ways to be.
It don' matter to me 'cause I'm divisible by three
Other brothas wanna be one thing, one thing only
But there's a whole lotta lonely in acting one way
Thinking one way like this is yo last day to live
Give, unable to deliver when somethin' new
Comes yo way

When I was a kid I got these faces from my dad.
One had a smile one was sad.
Like my face when my rap goes down
Or goes down in flames….

I begin with these scenarios to make vivid my assertion in this chapter that schools need to come to know and learn to value struggling adolescent boys' interests and literate practices beyond the school walls. I focus on the literate practices of Malik, a low-achieving reader, arguing that male youth like him will become more engaged and critical readers when room is made in school for their out-of-school interests and literacies (Brozo 2010; Brozo and Gaskins 2009).

## 10.3 Male Youth and Literacy Engagement

In a study done by the Schott Foundation (2011) it was found that overall only 47% of African American males graduate from high school, with rates at scandalous levels in many U.S. urban centers. Failing to reach even this minimal of academic milestones dooms youth to a future marked by grinding cycles of poverty, unemployment, and other economic, social, and personal setbacks (Tatum and Muhammad 2012). Although there are numerous explanations for these alarming numbers of dropouts for boys of color (Chapman et al. 2011), it is almost certain that inadequate reading ability looms large (Brozo 2010; Tatum 2013; Vacca 2008). To become effective problem solvers, flexible decision makers, and critical thinkers male youth need to be skillful readers (Brozo and Crain 2016). Unlike their unskilled peers, skilled readers have a much greater chance of being successful at home and in the workplace (Sum et al. 2007). In today's fiercely competitive global economy, driven by information and knowledge, low levels of literacy put adolescent males at a great and increasing disadvantage. Their skill deficiencies will limit access to the full range of opportunities enjoyed by their more literate peers (Brozo 2010). Thus, ensuring boys are engaged and vested in their own literate competence, to create the possibility for successful personal, occupational, and community life as adults, must be one of our highest educational priorities.

Since motivation and engagement are highly related terms (Cambria and Guthrie 2011) –engagement is seen as a reflection of motivated behavior (Skinner et al. 2009) – they are often used interchangeably in the literature (National Research Council 2004). In this chapter, both terms are used to refer to heightened levels of student involvement.

The practices I present of Malik's teachers adapting existing strategies or engaging him and his peers in creative activities of their own design can all be supported by sound theories of interest and motivation (Christensen et al. 2012; Guthrie et al. 2013; Schunk et al. 2013). For example, according to the Concept-Oriented Reading Instruction model (Guthrie et al. 2012), motivation and engagement increase when students are provided autonomy support, interesting texts, opportunities for

collaboration, and strategy instruction by involved and caring teachers. These same theoretical underpinnings are necessary, I assert, to impel adolescent males to participate actively in reading and learning (Brozo 2010).

Engagement has been found to be a critical variable in reading achievement (Guthrie and Klauda 2014; Guthrie et al. 2013), and an especially potent factor in the reading achievement of urban youth (Tatum and Muhammad 2012; Unrau and Schlackman 2006). Evidence for the benefits of engaged reading for adolescents is quite compelling (Brozo et al. 2014; Guthrie 2008; O'Brien and Dillon 2014). As compared with their less interested peers, adolescents who identify themselves as being interested in reading and who actively choose to read exhibit higher achievement on standardized tests of reading and in the classroom (National Center for Educational Statistics 2008; OECD 2010). Engaged reading leads to frequent print encounters which improves reading skill and increases educational, professional, and civic opportunities for youth (Nagourney 2007; National Endowment for the Arts 2007). For boys of color, in particular, it has been shown that the longer they remain engaged academically the higher the status they achieve in labor markets (Sum et al. 2007).

Engagement also appears to be a critical variable in the reading and academic lives of boys (Brozo and Gaskins 2009; Sarroub and Pernicek 2014; Smith and Wilhelm 2002; Tatum 2014a). Lack of engagement with literacy is one of the most significant factors in accounting for boys' lower attainment in relation to girls (Brozo et al. 2007; Brozo et al. 2014). We know that boys of all ages fail in reading more often than girls (Chudowsky and Chudowsky 2010; National Center for Educational Statistics 2008; OECD 2010), dominating the roles in corrective and remedial reading programs (Limbrick et al. 2011; Wheldall and Limbrick 2010).

In spite of what we know about the importance of gaining and sustaining students' attention to reading and learning, teachers of male youth need ways of retarding or even reversing the well-documented slump in achievement and motivation during the upper-elementary and middle school years (Andermann et al. 2011). The fallout from this slump appears to affect boys disproportionately (Alliance for Excellent Education 2007; Brozo 2010) and has the most negative consequences for boys of color (Hernández 2010; Tatum 2008).

Many adolescent boys, like Malik, possess talent, energy, and intelligence yet find themselves in school settings where these competencies may go untapped (Brozo in press; Hinchman et al. 2003/04). The results of failing to align school curricula with students' interests and outside-of-school competencies are not inconsequential. Alvermann and her colleagues (Sturtevant et al. 2006) assert that:

> …our nation's schools have not always recognized and made use of the very real but widely disparate abilities of our nation's adolescents. Their diversity, the result of individual differences and life trajectories, as well as community differences and cultural backgrounds, are too often seen as liabilities rather than as the helpful opportunities for education they can be. In spite of a growing body of scholarship on the intellectual, emotional, and social needs of teenagers, most schools have not employed the curricula and instructional methods this work suggests (p. 6).

As young adolescents become more cognitively astute and self-aware they seek contexts that support their growing sense of autonomy, desire for social networking, and identity development (Alvermann et al. 2012; Tatum 2013). If they encounter traditional, teacher-centered instructional practices in middle and secondary schools, positive affect for learning is likely to diminish and a psychological distance from school-related activities may increase (Guthrie et al. 2013). On the other hand, when offered a curriculum that is responsive to the interests and abilities they bring to school, and pays attention to who they are as individuals, adolescents are more likely to sustain their engagement in learning (Brozo 2011; Tatum 2014b).

## 10.4 Graphic Novels in the Disciplines: Linking Home and School Literate Practices

Our secondary school classrooms are more diverse now than at any time in the history of U.S. schooling (National Center for Education Statistics 2010; National Clearinghouse for English Language Acquisition 2010). This diversity presents teachers and school leaders with considerable challenges (Morrell 2008). One such challenge is crafting responsive instruction in the content classroom to ensure all youth develop literacy and learning skills to acquire information and concepts in the disciplines (Brozo and Puckett 2009).

Even though a number of students achieve at expected levels in elementary school they can experience serious challenges when required to read and learn from a growing volume of informational and disciplinary texts in the middle and upper grades (Brozo and Afflerbach 2011; Brozo in press). Furthermore, older youth from outside the United States who enter our middle and high schools without the benefit of early-grade literacy supports may bring with them a host of language and learning issues (Calderon and Minaya-Rowe 2011).

To meet the literacy and learning needs of today's youth, who come from disparate cultures and with wide ranging ability levels, teachers need a repertoire of responsive content literacy instructional practices (Brozo 2017; Goldhaber et al. 2015). Due to these issues, graphic novels and other non-traditional texts are becoming more popular and common place in educational settings.

It wasn't that long ago, however, when comic books were not to be dignified in libraries, schools, and classrooms. But then in 1992, Art Spiegelman's *Maus* was awarded a Pulitzer Prize and the term "graphic novel", which had been in use among devotees as far back as the 1960s, came into vogue. Since then, the comic book format has changed dramatically. Graphic novels are now being recognized for their literary and artistic merit and their authors and illustrators are taking on everything from the Palestinian-Israeli conflict to growing up with an epileptic sibling (Brozo et al. 2014). According to Carter (2007), "comics and graphic novels are experiencing a burgeoning Golden Age in education" (p. 1).

Graphic novels come in numerous genres, including fiction, non-fiction, science fiction, fantasy, mystery, history, memoir, and biography. This variety, along with their enormous popularity with youth, makes graphic novels and comic books an engaging and useful additional resource for teaching and learning in any content classroom (Brozo et al. 2014).

There are several documented advantages of using graphic novels and comic books in the classroom. These sources have been shown to be invaluable for motivating reluctant readers (Schwarz 2002). This is so because they are regarded by youth as entertainment similar to other modern media formats, and the illustrations provide visual scaffolding and needed contextual clues to the meaning of the written narrative (Hassett and Schieble 2007). This is especially helpful for struggling and visual learners (Yang 2008). Furthermore, graphic novels have the ability to reach out to a wider variety of readers, as they deal with topics of cultural and gender diversity and issues important to adolescents (Moeller 2011).

Griffith (2010) has made clear that a majority of teachers are open to using graphic novels but desire more familiarity with them and instructional guidelines for using them as teaching tools to build disciplinary knowledge and literacy.

## 10.5 Malik's Encounter with *Incognegro*

One of the scenarios at the opening of this chapter captures how Malik's lack of motivation for learning and feelings of disconnectedness in English resulted in a confrontation between him and his teacher, leading to his ejection from class and referral to the office. During that same school year, however, just down the hall, Malik was having very different experiences in history with newly minted teacher and assistant football coach, Mr. Brown. Younger and active in participatory popular cultural media, Mr. Brown incorporated a variety of texts and media into his lessons, including graphic novels.

During the study of the pre-Civil Rights era in the U.S., Mr. Brown introduced his American history class to the graphic novel, *Incognegro* (Johnson and Pleece 2009). Here is how Malik responded to this book:

> I'm the kind of kid who would rather play basketball than read.
> I really don't like to read. Books just don't seem interesting.
> anymore compared to the other stuff I like to do. But *Incognegro.*
> was different. This was an amazing book. My history teacher read it.
> to us, then he gave it to me to read on my own. He said he thought I.
> would like it. He was right. We have been learning about how Blacks.
> in the south were lynched all the time. They would be taken out of their.
> houses at night. Some were even taken from jail. My teacher told us.
> that some Blacks with real light skin who worked for newspapers in the.
> North risked their lives to go south and write articles about lynchings.
> They called this going "incognegro".
> The main character is a real light colored Black guy named Zane Pinchback. So am I. My mother is white. She's from Austria and my

father was from Ethiopia. Some kids with tans look darker than me. My.
hair is curly but not kinky. My parents are cool about who I hang out with.
My friends are all Black. I also like this book because it's a graphic.
novel. For me, these kind of books are a lot easier to read. I can read.
the words and if I'm not sure what's going on or if the dialog isn't too.
interesting, I can also look at the illustrations. The illustrations in this.
book are awesome. They really help you get into the story.
Zane is a reporter for a newspaper in Harlem. He decides to go.
incognito or as the book calls it "incognegro" to Mississippi before civil.
rights to investigate the murder of a white woman. His own brother is.
accused of the murder. Zane uses his light skin to sneak down south.
Whites want to lynch Zane's brother. Zane has to do everything he can.
to find out the truth and save his brother.
I have a lot of respect for Blacks who fought for civil rights. They.
risked their lives. Zane is afraid whites will figure out he's black, but he.
does what he can for his brother anyway. Reading about Zane and looking.
at the drawings of him, his brother, the angry whites and the other people.
made the book so real.
Could I ever show the kind of courage Zane does or all those people.
who fought for their rights? I don't know. But I think I am strong enough.
and proud enough. There's one part of the book where Zane is looking right.
into your eyes. He is in Mississippi and he has found out who really killed.
the white woman. When I look into Zane's eyes in that picture, it's like I.
can see myself. He's scared but confident that he must do the right thing.

Mr. Brown recognizes that graphic novels are a form of youth media whose time has come as a teaching and learning tool in secondary classrooms. For Malik and his classmates, Mr. Brown's inclusion of graphic novels in history has produced greater enthusiasm for learning and elaborate processing of textual information. Other activities related to graphic novels Mr. Brown employs include having his students rework important scenes of history into their own illustrated panels with present-day talk and slang. For example, when studying the American Civil War, Malik eagerly contributed the dialog and captions while his more artistic friend Kwame the illustrations in recasting Grant and Lee's famous meeting at Appomattox as two intensely competitive rap stars working out a truce and agreeing to record together.

## 10.6 Youth Literacies in the Mediasphere

Calls for secondary schools to honor the literacies and discourses of youth derive from the realization that we live in a "mediasphere" (O'Brien 2001), "a world saturated by inescapable, ever-evolving, and competing media that both flow through us and are altered and created by us" (Brozo and Simpson 2007, p.13). Adolescents are the most active participants in the mediasphere, creating forms of discourse that should be acknowledged and appreciated in school settings since competency in these new forms of communication will serve youth well in the ever-evolving global reach of the digital age (Alvermann 2010; Squire 2011). I believe the discourse worlds most teens inhabit if validated in the public sphere of schools and

classrooms could increase engagement in literacy and content learning (Walsh 2010). Formal secondary education is the setting where youths' multiple literacies –digital, graphic, aural– could find expression in the understanding, critical analysis, and reinterpretation of concepts and content (Leu et al. 2015; O'Brien and Scharber 2008).

One of the biggest challenges confronting teachers of youth is coming to terms with what counts as literacy in their lives and in the worlds they inhabit. It is essential that teachers in secondary schools remain ever mindful of the material uses and practices of youth as they prepare them to assume their roles as literate individuals in society (Dalton and Proctor 2008). This will entail exploiting the multiple literacy competencies adolescents bring to school (Alvermann et al. 2012). In secondary school settings alongside traditional reading and language arts schemes room will need to be made for demonstrations of students' semiotic competencies and for valuing students' out-of-school literacies in order for teachers to learn from their students and help them fulfill their goals in our ever-expanding digital world (International Reading Association 2009).

Another reason literacy scholars and teachers urge that room be created in the secondary curriculum for students' out-of-school competencies with new literacies and media has to do with building on students' strengths for developing academic knowledge and skills (Lee and Spratley 2010). For example Goodman (2003) found by helping a group of high school students in New York City create their own documentary about gun violence in their neighborhoods, he could expand the teens' literacy and thinking skills while building confidence in learning. "Unlike so many of their other experiences at home and at school, which (end) in disappointment and failure," Goodman says, their video production experiences "yielded tangible evidence that they can succeed" (p. 99). He goes on to describe the experience for the students in this way:

> In translating the familiar to the unfamiliar, the students are asked to reflect more deeply on their own taken-for-granted language and culture. They are asked to identify and define the commonsense folk terms and concepts that emerge from the interviews in the community. They are also asked to identify gaps in information between the familiar and unfamiliar domains and formulate specific questions for obtaining the missing information (p. 59).

It's clear that those responsible for providing adolescent literacy instruction need to know more about the funds of knowledge and discourse competencies youth bring with them to secondary school classrooms (Heller and Greenleaf 2007; Langer 2011). Coming to know students in this way will lead to more responsive instruction that integrates in- and beyond-school literacy and learning practices (Moje et al. 2008).

An obvious source for enlivening school-based learning for boys is popular media and music (Hagood 2009**).** Because today's male youth are active players in the mediasphere, it makes good sense to find as many linkages as possible between the images and music with which they are familiar and topics under study in the classroom. Music, as a medium of identity construction for boys, is a very viable alternative text form under-exploited by most teachers (Mangram and Weber 2012).

Scaffolding for new understandings means working with what boys bring to the classroom, including their interest and knowledge of popular music (Duncan-Andrade and Morrell 2007).

## 10.7 Malik Learns Word Families Through Hip Hop

Flashcards and workbooks as the basis for word study was yielding complaints and despondency from Malik and his classmates in their special reading class, comprised mostly of boys. Ms. Jones had been frustrated, too, by her students' lack of engagement in the lessons and readings, until she began tapping into their media and music for teaching aspects of language and composition.

For instance, when preparing Malik and the rest of the class for a study of word families, she first found out what her students had programmed on their iPods and phones, and other portable music devices. She then tracked down the lyrics from some of these songs and raps and found they possess a variety of words that could be studied as families and then could be used as models for other similar words in school texts and in their own writing. With her students' own music as text for learning word families, Ms. Jones noted the boys, in particular, were eager to participate in the lessons, remembered more content, and gave more thoughtful responses.

When studying the "ch" and "ck" sounds, Ms. Jones invited students to bring in lyrics with these elements. As long as the song or rap lyrics met acceptable school standards (no profanity, excessive violence, or degrading messages about women and girls), students were allowed to work with them in their analysis. With a partner, first students were to create a t-chart listing all the words that had either the "ch" or "ck" element. Malik and his friend, Jeffrey, brought in and analyzed the rap lyric "I Love to Give You Light" by Snoop Dogg. The boys found many words with the word family elements.

**Words from "I Love to Give You Light" with /ch/ and /ck/ Sounds**

| ch | ck |
|---|---|
| such | background. |
| preach | jackers |
| chuuch | glock |
| teachin' | block |
| watchin' | locked |
| each | black. |
| preachin' | |
| reach | |
| beach | |
| child | |

Ms. Jones then directed the students to generate new words with the /ch/ and /ck/ sounds and add these to their t-chart. Based on Snoop Dogg's rap lyrics, Malik and

Jeffrey added "catch," "match," "reach," and "bunch" to the left column and "socks," "locker," "backpack" "stick" to the right column words. Each pair of students completed the same activity with the song lyrics they had brought to class to analyze.

With their new words, students were then asked to write lyrics based on the genre of music they analyzed. The lyrics had to contain the new words they generated to match the /ch/ and /ck/ sounds. Thus, Malik and Jeffrey working with the Snoop Dogg rap, wrote their own rap. This was right up Malik's alley. While Jeffrey kept rhythm on his desk top, Malik read the rap:

I put my *socks* in my *backpack* when I go to school.
I put my backpack in my *locker* or I look like a fool.
I get my *socks* from my backpack when I go to gym.
Where I *catch* the ball then *stick* it in the rim.

Ms. Jones witnessed a new level of enthusiasm for learning among her students, especially the boys, doing word study work with song lyrics. The best result, however, was that her students' enthusiasm translated into genuine learning. Ms. Jones noticed their ability to recognize many of the same words and those with the same word family elements in their own and their classmates' compositions, and as they read stories and other texts. This level of application and transfer occurred because Ms. Jones eliminated barriers between outside-of-school interests and literacies of his students and classroom practices. And her male students, like Malik, were the special beneficiaries, as their engagement in reading and learning as well as their language competencies increased.

## 10.8 A Final Word About Malik and Literacy Engagement

Understanding male youth requires an attitude of openness to their unique and diverse nature. It is perhaps only through an appreciation of the life-worlds of adolescent boys and how they shape and are shaped by their worlds that we can ever really come to know them. Malik is a struggling reader and writer in school when the contexts for literacy and learning fail to engage him or honor his interests and discourses. On the other hand, Malik is a competent language user when composing and reciting original raps with his "wingmen," or when he's asked to participate in academic learning that channels his outside-of-school competencies.

It is important that boys like Malik do not get lost in the sweep of global reading data on boys' underachievement. As we have seen, PISA findings reveal that when it comes to enjoyment of reading, time spent reading for pleasure, and diversity of texts read, girls have significantly higher indices than boys on reading engagement among virtually all participating countries (Brozo et al. 2014). In addition to findings on international assessments, numerous studies report boys are less engaged and motivated to read as compared with girls (Kessels et al. 2014; Logan and Johnston 2009; Marinak and Gambrell 2010). The variable of engagement is critical to any discussion of success for boys like Malik as evidence points to the role

engagement plays in producing higher levels of academic and reading achievement for struggling boys and boys of color (Matthews et al. 2010), especially those who have experienced multiple risk factors in their lives, such as low parental education, single-care giver households, and economic poverty (Fantuzzo et al. 2012).

With the broad trends in the research literature as a backdrop, this chapter demonstrates that there are texts and practices capable of reaching disengaged and struggling male readers, like Malik. Teachers, like those in Malik's history and reading classes, can discover the literate practices male youth engage in with alternative texts and media beyond the classroom walls, such as music and graphic novels, and weave these texts and practices into their instructional routines.

## References

Alliance for Excellent Education. (2007/January). *The high cost of high school dropouts: What the nation pays for inadequate high schools.* Washington, DC: Author.

Alvermann, D. E. (2010). Sociocultural constructions of adolescence and young people's literacies. In L. Christenbury, R. Bomer, & P. Smagorinsky (Eds.), *Handbook of adolescent literacy research* (pp. 14–28). New York: Guilford.

Alvermann, D. E., Marshall, J. D., McLean, C. A., Huddleston, A. P., Joaquin, J., & Bishop, J. (2012). Adolescents' web-based literacies, identity construction, and skill development. *Literacy Research and Instruction, 51*(3), 179–195.

Andermann, E., Andrezejewski, C., & Allen, J. (2011). How do teachers support students' motivation and learning in their classrooms? *Teachers College Record, 113*(5), 969–1003.

Anderman, E. M., Maehr, M. L., & Midgley, C. (1999). Declining motivation after the transition to middle school: Schools can make a difference. *Journal of Research and Development in Education, 32*, 131–147.

Brozo, W. G. (2002). *To be a boy, to be a reader: Engaging teen and preteen boys in active literacy*. Newark: International Reading Association.

Brozo, W. G. (2005). Avoiding the "fourth-grade slump". *Thinking Classroom/Peremena, 6*, 48–49.

Brozo, W. G. (2010). *To be a boy, to be a reader: Engaging teen and preteen boys in active literacy* (2nd ed.). Newark: International Reading Association.

Brozo, W. G. (2011). *RTI and the adolescent reader: Responsive literacy instruction in secondary schools*. New York: Teachers College Press.

Brozo, W. G. (2017). *Disciplinary and content literacy for today's adolescents: Honoring diversity and building competence* (6th ed.). New York: Guilford.

Brozo, W. G., & Afflerbach, P. P. (2011). *Adolescent literacy inventory: Grades 6–12*. Boston: Pearson.

Brozo, W. G., & Crain, S. (2016). Schooling in the United States: What we learn from international assessments of reading and math literacy. In H. Morgan & C. Barry (Eds.), *The world leaders in education: Lessons from the successes and drawbacks of their methods* (pp. 37–60). New York: Peter Lang.

Brozo, W. G., & Gaskins, C. (2009). Engaging texts and literacy practices for adolescent boys. In K. Wood & W. Blanton (Eds.), *Literacy instruction for adolescents: Research-based practice* (pp. 170–186). New York: Guilford.

Brozo, W. G., & Puckett, K. (2009). *Supporting content literacy with technology*. Boston: Pearson.

Brozo, W. G., & Simpson, M. L. (2007). *Content literacy for today's adolescents: Honoring diversity and building competence*. Upper Saddle River: Pearson.

Brozo, W. G., Shiel, G., & Topping, K. (2007). Engagement in reading: Lessons learned from three PISA countries. *Journal of Adolescent & Adult Literacy, 51*, 304–315.

Brozo, W. G., Moorman, G., & Meyer, C. (2014). *Wham! Teaching with graphic novels across the curriculum*. New York: Teachers College Press.

Calderon, M., & Minaya-Rowe, L. (2011). *Preventing long-term ELs: Transforming schools to meet core standards*. Thousand Oaks: Corwin.

Cambria, J., & Guthrie, J. T. (2011). Motivating and engaging students in reading. *The NERA Journal, 46*(1), 16–29.

Carter, J. B. (2007). *Building literacy connections with graphic novels: Page by page, panel by panel*. Urbana: National Council of Teachers of English.

Chapman, C., Laird, J., Ifill, N., & Kewal Ramani, A. (2011). *Trends in high school dropout and completion rates in the United States: 1972–2009*. Washington, DC: National Center for Education Statistics.

Christensen, S., Reschly, A., & Wylie, C. (2012). *Handbook of research on student engagement*. New York: Springer.

Chudowsky, N., & Chudowsky, V. (2010). *State text score trends through 2007–08, part 5: Are there differences in achievement between boys and girls?* Washington, DC: Center on Education Policy.

Coles, M., & Hall, C. (2001). Boys, books and breaking boundaries: Developing literacy in and out of school. In W. Martino & B. Meyenn (Eds.), *What about the boys? Issues of masculinity in schools* (pp. 211–221). Buckingham: Open University.

Dalton, B., & Proctor, P. (2008). The changing landscape of text and comprehension in the age of new literacies. In J. Coiro, M. Knobel, C. Lankshear, & D. J. Leu (Eds.), *Handbook of research on new literacies* (pp. 297–324). Mahwah: Erlbaum.

Duncan-Andrade, J., & Morrell, E. (2007). Critical pedagogy and popular culture in an urban secondary English classroom. In P. McLaren & J. L. Kincheloe (Eds.), *Critical pedagogy: Where are we now?* (pp. 184–199). New York: Peter Lang.

Fashola, O. (2005). *Educating African American males*. Thousand Oaks: Corwin Press.

Fantuzzo, J., LeBoeuf, W., Rouse, H., & Chen, C.-C. (2012). Academic achievement of African American boys: A city-wide community-based investigation of risk and resilience. *Journal of School Psychology, 50*, 559–579.

Goldhaber, D., Lavery, L., & Theobald, R. (2015). Uneven playing field? Assessing the teacher quality gap between advantaged and disadvantaged students. *Educational Researcher, 44*(5), 293–307.

Goodman, S. (2003). *Teaching youth media: A critical guide to literacy, video production, and social change*. New York: Teachers College Press.

Griffith, P. E. (2010). Graphic novels in the secondary classroom and school libraries. *Journal of.Adolescent & Adult Literacy, 54*(3), 181–189.

Guthrie, J. (2008). *Engaging adolescents in reading*. Thousand Oaks: Corwin Press.

Guthrie, J. T., & Klauda, S. L. (2014). Effects of classroom practices on reading comprehension, engagement, and motivations for adolescents. *Reading Research Quarterly, 49*(4), 387–416.

Guthrie, J. T., Wigfield, A., & You, W. (2012). Instructional contexts for engagement and achievement in reading. In S. L. Christenson, A. L. Reschly, & C. Wylie (Eds.), *Handbook of research on student engagement* (pp. 601–634). New York: Springer.

Guthrie, J. T., Klauda, S. L., & Ho, A. N. (2013). Modeling the relationships among reading instruction, motivation, engagement, and achievement for adolescents. *Reading Research Quarterly, 48*(1), 9–26.

Hagood, M. C. (2009). *New literacy practices: Designing literacy learning*. New York: Peter Lang.

Hassett, D. D., & Schieble, M. B. (2007). Finding space and time for the visual in K–12 literacy instruction. *The English Journal, 97*(1), 62–68.

Heller, R., & Greenleaf, C. L. (2007). *Literacy instruction in the content areas: Getting to the Core of middle & high school improvement*. Washington, DC: Alliance for Excellent Education. Retrieved from http://www.all4ed.org.

Hernández, D. J. (2010). *Double jeopardy: How third grade reading skills and poverty influence high school graduation*. Retrieved from files.eric.ed.gov/fulltext/ED518818. pdf

Hinchman, K. A., Alvermann, D. E., Boyd, F. B., Brozo, W. G., & Vacca, R. T. (2003/2004). Supporting older students' in- and out-of-school literacies. *Journal of Adolescent & Adult Literacy, 47*, 304–310.

Hunsdader, P. D. (2002). Why boys fail and what we can do about it. *Principal, 82*, 52–54.

International Reading Association. (2009). *New literacies and 21st century technologies* (position statement). Newark: Author. Retrieved from www.reading.org/General/AboutIRA/PositionStatements/21stCenturyLiteracies.aspx

Johnson, M., & Pleece, W. (2009). *Incognegro*. London: Titan Books.

Kessels, U., Heyder, A., Latsch, M., & Hannover, B. (2014). How gender differences in academic engagement relate to students' gender identity. *Educational Research, 56*(2), 220–229.

Langer, J. (2011). *Envisioning knowledge: Building literacy in the academic disciplines*. New York: Teachers College Press.

Lee, C. D., & Spratley, A. (2010). *Reading in the disciplines: The challenges of adolescent literacy*. New York: Carnegie Corporation of New York.

Leu, D. J., Forzani, E., Rhoads, C., Maykel, C., Kennedy, C., & Timbrell, N. (2015). The new literacies of online reading and comprehension: Rethinking the reading achievement gap. *Reading Research Quarterly, 50*(1), 37–59.

Lietz, P. (2006). A meta-analysis of gender differences in reading achievement at the secondary school level. *Studies in Educational Evaluation, 32*, 317–344.

Limbrick, L., Wheldall, K., & Madelaine, A. (2011). Why do more boys than girls have a reading disability? A review of the evidence. *Australasian Journal of Special Education, 35*(1), 1–24.

Logan, S., & Johnston, R. (2009). Gender differences in reading ability and attitudes: Examining. where these differences lie. *Journal of Research in Reading, 32*(2), 199–214.

Mangram, J. A., & Weber, R. L. (2012). Incorporating music into the social studies classroom: A qualitative study of secondary social studies teachers. *Journal of Social Studies Research, 36*(1), 3–21.

Marinak, B. A., & Gambrell, L. B. (2010). Reading motivation: Exploring the elementary gender gap. *Literacy Research and Instruction, 49*(2), 129–141.

Matthews, J. S., Kizzie, K. T., Rowley, S. J., & Cortina, K. (2010). African Americans and boys: Understanding the literacy gap, tracing academic achievement, and evaluating the role of learning-related skills. *Journal of Educational Psychology, 102*, 757–771.

Moeller, R. A. (2011). "Aren't these boy books?" High school students' readings of gender in graphic novels. *Journal of Adolescent & Adult Literacy, 54*(7), 476–484.

Moje, E. B., Overby, M., Tysvaer, N., & Morris, K. (2008). The complex world of adolescent literacy: Myths, motivations, and mysteries. *Harvard Educational Review, 78*(1), 107–154.

Morrell, E. (2008). *Critical literacy and urban youth: Pedagogies of access, dissent, and liberation*. New York: Routledge.

Nagourney, E. (2007, July 31). Consequences: Reading skills are tied to a longer, healthier life. *The New York Times*. Retrieved from http://www.nytimes.com/2007/07/31/health/31cons.html

National Center for Education Statistics. (2010). *The condition of education 2010* (NCES 2010–028), Indicator 5 (1979–2008). Retrieved from http://nces.ed.gov/fastfacts/display.asp?id=16

National Center for Educational Statistics. (2008). *Trends in NAEP: Long-term trend assessment average reading scale scores and score gaps for students age 17, by gender: 1971–2008*. Retrieved from http://nationsreportcard.gov/ltt_2008/ltt0008.asp?tab_id=tab3&subtab_id=Tab_1#chart

National Clearinghouse for English Language Acquisition (NCLEA). (2010). Retrieved from http://www.ncela.gwu.edu/faqs/

National Endowment for the Arts. (2007). *To read or not to read*. Washington, DC: Author.

National Research Council. (2004). *Engaging schools: Fostering high school students' motivation to learn*. Washington, DC: National Academies Press.

O'Brien, D. G. (2001). "At-risk" adolescents: Redefining competence through the multiliteracies of intermediality, visual arts, and representation. *Reading Online, 4*(11). Retrieved from http://www.readingonline.org/newliteracies/lit_Index.asp?HREF=/newliteracies/obrien/index.html

O'Brien, D. G., & Dillon, D. R. (2014). The role of motivation in the engaged reading of adolescents. In K. A. Hinchman & H. K. Sheridan-Thomas (Eds.), *Best practices in adolescent literacy instruction* (2nd ed., pp. 36–61). New York: The Guilford Press.

O'Brien, D., & Scharber, C. (2008). Digital literacies go to school: Potholes and possibilities. *Journal of Adolescent & Adult Literacy, 52*(1), 66–68.

OECD. (2010). *PISA 2009 results: Learning to learn—Student engagement, strategies and practices (Volume III)*. Retrieved from https://doi.org/10.1787/9789264083943-en

Sarroub, L. K., & Pernicek, T. (2014). Boys, books, and boredom: A case of three high school boys and their encounters with literacy. *Reading & Writing Quarterly*, 1–29. Retrieved from http://digitalcommons.unl.edu/cgi/viewcontent.cgi?article=1162&context=teachlearnfacpub

Schott Foundation for Public Education. (2011). *50 state report on black males and education.* Retrieved from www.blackboysreport.org

Schunk, D. H., Meece, J. L., & Pintrich, P. R. (2013). *Motivation in education: Theory, research, and applications* (4th ed.). Englewood Cliffs: Prentice Hall.

Schwarz, G. E. (2002). Graphic novels for multiple literacies. *Journal of Adolescent & Adult Literacy, 46*, 262–265.

Skinner, E. A., Kindermann, T. A., Connell, J. P., & Wellborn, J. G. (2009). Engagement and disaffection as organizational constructs in the dynamics of motivational development. In K. R. Wentzel & A. Wigfield (Eds.), *Handbook of motivation at school* (pp. 223–245). New York: Routledge/Taylor & Francis Group.

Smith, M. W., & Wilhelm, J. D. (2002). *Reading don't fix no Chevy: Literacy in the lives of young men*. Portsmouth: Heinemman.

Spiegelman, A. (1992). *Maus: A survivor's tale*. New York: Pantheon Books.

Squire, K. (2011). *Video games and learning: Teaching and participatory culture in the digital age*. New York: Teachers College Press.

Sturtevant, E., Boyd, F., Brozo, W. G., Hinchman, K., Alvermann, D., & Moore, D. (2006). *Principled practices for adolescent literacy: A framework for instruction and policy*. Mahwah: Erlbaum.

Sum, A., Khatiwada, I., McLaughlin, J., & Tobar, P. (2007/March). *The educational attainment of the nation's young black men and their recent labor market experiences: What can be done to improve their future labor market and educational prospects?* Boston: Center for Labor Market Studies, Northeastern University.

Tatum, A. W. (2006). Engaging African American males in reading. *Educational Leadership, 63*, 44–49.

Tatum, A. (2008). Toward a more anatomically complete model of literacy instruction: A focus on African American male adolescents and texts. *Harvard Educational Review, 78*(1), 155–180.

Tatum, A. W. (2013). Identity and literacy instruction for African American males. In R. Wolfe, A. Steinberg, & N. Hoffman (Eds.), *Anytime anywhere: Student-centered learning for schools and teachers* (pp. 103–121). Cambridge, MA: Harvard Education Press.

Tatum, A. W. (2014a). Orienting African American male adolescents toward meaningful literacy exchanges with texts. *Journal of Education, 194*(1), 36–47.

Tatum, A. W. (2014b). Texts and adolescents: Embracing connections and connectedness. In K. Hinchman & H. K. Sheridan-Thomas (Eds.), *Best practice in adolescent literacy instruction* (2nd ed., pp. 3–19). New York: Guilford.

Tatum, A. W., & Muhammad, G. (2012). African American males and literacy development in contexts that are characteristically urban. *Urban Education, 47*(2), 434–463.

Unrau, N., & Schlackman, J. (2006). Motivation and its relationship with reading achievement in an urban middle school. *Journal of Educational Research, 100*(2), 81–101.

Vacca, J. S. (2008). Crime can be prevented if schools teach juvenile offenders to read. *Children and Youth Services Review, 30*, 1055–1062.
Walsh, M. (2010). Multimodal literacy: What does it mean for classroom practice? *The Australian Journal of Language and Literacy, 33*(3), 211–239.
Wheldall, K., & Limbrick, L. (2010). Do more boys than girls have reading problems? *Journal of Learning Disabilities, 43*(5), 418–429.
Yang, G. (2008). Graphic novels in the classroom. *Language Arts, 85*, 185–192.

# Chapter 11
# Curricular Materials for Young People Who Struggle with Learning to Read: The Case of Roadrunner Reader Inquiry Kits


**Misty Sailors, Alicia Villarreal, Teresa Sellers, Paul A. Schutz, Marcy Wilburn, and Sylvia Minton**

**Abstract** In this chapter, we review research on children's motivation to read and its relations to children's reading comprehension. Researchers have provided evidence that motivation is strongly associated with reading outcomes such as comprehension and their ability to use effective reading strategies. As such, the consideration of motivation with students who struggle with learning to read becomes particularly important. In this chapter, we will discuss an instructional approach focused on inquiry to address the needs of those children. Dubbed "inquiry kits," these curricular materials provide teachers instructional spaces to engage students. Informed by self-determination theory, the kits were developed to meet the students' basic needs related to autonomy, competence, and relatedness. We begin the chapter by explaining the theories that support our work; we describe the process we used in the development of the kits. This development process involved the consideration of an instructional model that was oriented around a "big idea" (topic) connected to a message of social justice. We conclude the chapter with examples of the ways in which these kits have been used to support the instruction of students who struggle with learning to read.

**Keywords** Reading motivation · Curricular adjustment · Inquiry kits · Instructional approach · Literacy strategies

M. Sailors (✉) · A. Villarreal · T. Sellers · P. A. Schutz · M. Wilburn · S. Minton
The University of Texas at San Antonio, San Antonio, TX, USA
e-mail: Misty.Sailors@utsa.edu; Teresa.sellers@utsa.edu; Paul.Schutz@utsa.edu; Marcy.Wilburn@utsa.edu; Sylvia.Minton@utsa.edu



P. Orellana García, P. Baldwin Lind (eds.), *Reading Achievement and Motivation in Boys and Girls*, Literacy Studies 15,
https://doi.org/10.1007/978-3-319-75948-7_11

What happens when you ask children and young people in a rural community to identify topics they would like to learn about? What happens when teachers author curriculum around those identified topics? What happens when teachers keep progressive notions of literacy education at the forefront of their work? All the while, maintaining a focus on supporting comprehension instruction with young people? What would a set of resulting products look like? Furthermore, how would authoring teachers use the materials? How would other teachers and reading specialists receive those materials?

In this chapter, we explore the authoring and use of curricular materials, created for use with young people who struggle with learning to read, grounded in theories of motivation and reading instruction. These materials were developed as part of an ongoing, three-year, research partnership with one of our local school districts, Sunnyside Independent School District (SISD).

## 11.1 Background: A University/School District Research Partnership

Historically one of the oldest districts in the area (established in 1920), SISD spans two Texas counties: southwest Bexar County and northwest Atascosa County. Originally founded in 1848 as a farming community, the area saw an economic oil boom in 1913, but the Depression hit the area hard and the district remains of the poorest (economically) in the State. Additionally, the district has recently seen a shift in its ethnic identity from people of Euro-American descent to people of Hispanic origins (now 86% of student population). The district currently serves nearly 4000 students, with more than 78% of students in the district labeled as "economically disadvantaged" and 11% of the student population receiving bilingual education services. The teaching staff tends to be beginning teachers (15.4% as compared to 8.5% in the State) or new teachers (1–5 years of experience, 40.8% as compared to 26.1% in the State). Teacher turnover is an issue; teachers stay in the district (on average) 7.3 years (compared to the State average of 11.0) even though teacher pay is higher than the State average.

While on the State's 2015 report card the SISD is rated as "meeting standards," the pass rate in reading is cause for concern. In 4th grade, only 54% of students in the district scored satisfactory or above, which is lower than the State (74%) and area (72%) rate. Likewise, 75% of 5th graders in the district scored satisfactory or above, which is also lower than the State and area rates (both at 87%). Additionally, only 61% of 6th graders in the district scored satisfactory or above when compared to the State and area rates of 77% and 76%, respectively. Finally, only 62% of students labeled economically disadvantaged scored satisfactory or above when compared to the State and area rates of 77% and 76%, respectively. In short, the district is a fertile space in which to study the short-term impact of an educational

intervention, as both of its elementary schools are rated as "improvement required" by the State.

The UTSA/Sunnyside ISD partnership is grounded in a shared vision to improve literacy instruction and is a "design research" partnership, as it is "place-based," focused on informing practice and research, co-designed, and collaborative at every step in the process (Coburn et al. 2013, p. 8–9). Throughout our current work together, we take a "searchers" approach to solving the educational challenges faced by our partners in SISD. "Searchers" are organizations and people who think in small scale about highly contextualized challenges and speak in terms of strategic problem solving and collaboration (Easterly 2006). Searchers, in a very post-colonial fashion, engage in aid efforts focused on specific challenges, engage with local expertise, and explore innovative solutions that can be tested in the moment and revised as needed (Coryell et al. 2016).

From this perspective, our work with the curricular materials we describe in this chapter grew out of a local need to address a lack of student motivation to read and the large number of children and young people who were labeled as requiring Tier II instruction. Tier II instruction (also called intervention instruction) is provided to students who do not respond to core instruction (Tier I) and who require additional and intensive small group instruction. In fact, nearly 20% of the student population qualified for Tier II services ($n \approx 345$ or 20% of the district's students). The need for Tier II instruction spanned grade levels, gender, and language and socioeconomic groups. We were approached by the district in May 2015 with a request to "bring our after school tutoring program" to the district.

Overcoming challenges of travel to/from SISD from the University, we successfully engaged in a pilot study in their after-school program. When we started working with the students, they were unable to explicate any comprehension strategies they used while reading. In fact, students were aware of decoding strategies but were misappropriating them to comprehension. We decided to model the intervention on teaching metacognitive reading strategies using intentional instruction (Sailors and Price 2015), embedded inside inquiry projects (Fairbanks 2000).

The tutors were eight classroom teachers (including the dyslexia specialist, the reading interventionist, and master teachers who taught at Sunnyside Elementary School, SES) and seven highly recommended undergraduate and graduate students from our university (UTSA). The tutors worked in pairs: each pair contained a certified teacher and a UTSA student. Three UTSA faculty offered support to the team through (a) modeling during tutoring; (b) brief mini-lessons on how to introduce metacognitive strategies; (c) materials in the forms of anchor charts; and (d) feedback in daily email messages following tutoring sessions.

We collected data on a daily basis, using single subject experimental design, specifically, alternating treatments (Neuman and McCormick 1995). We collected baseline data to establish pre-intervention behaviors (McCormick 1995, p. 6), which we defined as the lack of strategy use or inability to engage in metalanguage about metacognition. Throughout the pilot, we collected repeated and frequent measures of the responses/ target behaviors (event recordings) as a way of documenting patterns of responses (McCormick 1995, pp. 7–8). We documented trends (Barlow and

Hersen 1984, as cited in McCormick 1995, p. 10) using visual analysis to establish performances of individual readers in the program. We used visual data to monitor (a) changes in the metacognition of the student occurred; (b) the magnitude of the change; (c) the trend of the change; (d) the latency of the change; and (e) if the changes appeared to be reliable. Through our intervention, we demonstrated a quasi-causal relationship with 95% of the students who attended (Sailors 2016).

After many conversations about the feasibility of employing the intervention district-wide (two elementary schools, one intermediate school, one junior high, and one high school), we agreed (university/district) that a better approach would be to address the lack of curriculum for Tier II reading groups and to advance the pedagogical practices of the reading interventionists who teach those classes. What followed became known as part of the Roadrunner Reader Initiative.

## 11.2 Framing of the Curricular Materials

While many would consider children and young people when making curricular decisions, curriculum is often "more for teachers than it is for pupils" (Bruner 1977, p. xv). And, if it is "for teachers," a progressive curriculum should "change, move, perturb, [and] inform teachers" (p. xv) so that it changes how they teach. According to Bruner (1977), curriculum will have an impact on students when it has an impact on teachers. In many US schools today, curricular materials (e.g., textbooks) drive literacy instruction. Often, teachers (at all levels of education) assign a single text, regardless of interest, for all students to read (Fisher and Frey 2012). Furthermore, many of the curricular materials are constructed based on what adults think children and young people want to read/write about versus themes that center on topics that directly impact their lives. And, historically, those curricular materials have not challenged teachers to be more progressive in their instruction (Jobrack 2012). In this section, we explore notions of motivation that informed our work related to developing curricular materials that both engaged young people in topics in which they were interested and materials that challenged their teachers to teach in more progressive ways.

### *11.2.1 Theoretical Framework: Motivation*

Informed, by Self-determination theory (STD), we assume that students are continually active and their behaviors tend to be directed towards psychological growth and well-being (Ryan and Deci 2000, 2009). As suggested by SDT, there are three basic needs associated with that psychological growth and well-being: competence, autonomy, and relatedness (De Naeghel et al. 2012; De Naeghel et al. 2014; De Naeghel et al. 2016). Related to students who struggle with learning to read, the need for competence refers to students' confidence in their reading skills and

strategies. For example, students' confidence in their ability to monitor and understand what they read.

The need for autonomy involves the level of control students perceive they have during different classroom activities. One example, might be the choices they have over what books they get to read. Finally, the need for relatedness refers to the social needs of students to feel wanted and part of the various groups they value. This would suggest that for students, developing relationships with both the other students and their teachers in school would be important to the students' academic success. As such, activities that support student and teacher autonomy, competence, and relatedness also tend to be associated with learning as well as psychological growth and well-being (Ryan and Deci 2000, 2009).

### *11.2.2 Motivation and Reading Instruction*

In thinking of framing our curricular materials in a way that motivated children and young people in Tier II classrooms, we turned to the literature on motivation and reading. That literature would suggest that motivation must take into account the goals, values, beliefs, and disposition towards reading held by children and young people (Guthrie et al. 2012).

Drawing on the work of theories of motivation and their own research, Wigfield and Guthrie (1997) conceptualized various dimensions of reading motivation. Their work suggested three big ideas related to motivation and reading. First, children and young people must have self-efficacy, or the belief that they can be successful with reading. They must also be willing to take on difficult reading materials and be challenged by those materials. Second, children and young people must be curious about the topic they are reading. They must also be interested in reading for its own sake rather than because they are being extrinsically motivated to read. Third, children and young people must be engaged in reading for social purposes since reading is a social act. Further evidence suggests that even very young children have multifaceted senses of themselves as readers. Likewise, teachers should not think of children and young people as being 'high' or 'low' in motivation, but that teachers should understand that children have a mixture of motivational characteristics and that different groups of children and young people will respond differently to various motivational practices of teachers. In other words, there is no "one-size-fits-all" when thinking about motivation in classrooms.

Drawing from the most recent review of reading motivation literature, Conradi et al. (2014) attempted to organize the terms found within the literature on reading motivation. The image of the hierarchy can be found in their article; here, we summarize the layout and the terms contained there within. According to the authors, the three main factors affecting reading motivation are: (1) goals; (2) beliefs; and (3) (pre)disposition toward reading.

The goals that a child or young person has about reading are related to her intensions and orientations toward reading. Those goals are either performance related

("I want to get an A on this assignment") or mastery related ("I want to be a strategic reader"). The beliefs that a child or young person holds about reading are related to their beliefs about themselves (self-efficacy, self-concept, and agency) and their beliefs about reading (expectancy and value). Finally, the (pre)disposition of a child or young person to reading is related to their attitude to and interest in (situational and individual) reading.

In short, children and young people who have had positive experiences with literacy tend to read and write more frequently and with greater engagement (Alvermann 2008). Overtime, if students remain focused and determined to succeed in reading and writing, their practice will be more purposeful, enduring, and therefore, productive. The positive association formed with literacy will contribute to continued motivation and perseverance (Henk et al. 2012).

### *11.2.3 Motivation and Inquiry-Based Instruction*

Motivation is an important topic to consider with children who struggle with learning to read because research suggests that the motivation of young people to read declines as they leave elementary school (Wigfield et al. 1998). Inquiry-based instruction (Fairbanks 2000) is a counter to traditional, more didactic ways of learning and teaching. Oriented toward "the process of justifying beliefs through reasoning, conjecturing, evaluating evidence, and considering counter-arguments" (Wells 1999, p. 89), inquiry takes place in a socioconstructivist manner. Inquiry-based instruction is "aimed at engaging students in authentic, disciplinary problems and issues to develop students' critical perspectives on the problem under discussion" (Chisholm and Godley 2011). Research has demonstrated inquiry-based learning to be more effective than traditional rote learning (Harada and Yoshina 2004). Other research has demonstrated that inquiry-based instruction provides students with opportunities to problem solving (Blumenfeld et al. 1991; Marx et al. 1997; David 2008). More specific studies related to literacy achievement demonstrated that inquiry-based instruction not only creates spaces where students are intellectually more challenged (Fairbanks 2000), but also motivate them to read, especially when they get to choose what they read (Edmunds and Bauserman 2006; Fisher and Frey 2012).

Choice becomes a large part of motivation within an inquiry-based classroom. Fairbanks (2000), for example, suggested that giving students choice in their reading and writing allows them to use literacy to both understand the world and potentially act on it. This can help to develop a sense of ownership in the inquiry as well as build connections between what is read and experienced (Fairbanks 2000). Sailors (2013) described the ways in which teachers provided choices for materials that students used and created within print-rich literacy environments that motivated students and contributed to their success. In short, the materials provided by this teacher served the interests and curiosity of the young people in her classroom.

And, not only do teachers need to provide for self-selection of materials, students have to have access to a variety of reading materials (Edmunds and Bauserman 2006), time to read independently (Gambrell 2009), and to engage in exploration and questioning with their topics and materials (Guthrie 2004). In short, inquiry is an opportunity for children and young people to deeply explore an interesting topic, learn to become self-directed learners, and see themselves as "experts" from which others can learn.

### *11.2.4 The Role of Strategy Instruction Inside Inquiry-Based Instruction*

In addition to the topics and choice found in inquiry-based instruction, children and young people need access to literacy strategies that allow them to be successful with materials inside their inquiry projects. In fact, children and young people who are engaged in inquiry-based instruction score higher not only on measures of motivation, but also on measures of their use of reading strategies (Guthrie et al. 2000). For example, research has well documented the importance of strategies and strategy instruction with students who struggle with comprehension (see the works of Pressley 2000). Research on the strategic moves that proficient readers make (Pressley et al. 1989) indicate that those readers use a set of strategies, or plans for solving problems encountered when constructing meaning, coordinate those strategies and shift them when appropriate (Duffy 2009). This requires that those readers have metacognitive awareness, which enables them to apply, discuss, and evaluate strategic actions especially when reading tasks are difficult (Paris et al. 1994).

Historically, research has indicated that readers can be taught to be more strategic (Duffy et al. 1986; Duffy et al. 1987), it just takes time (Duffy 2002). In fact, most comprehension instruction in classrooms is not metacognitive in nature. Rather, young children are simply "witnesses" to adult displays of the kind of information that supports text comprehension (Van Kleeck et al. 2006). Recent research has demonstrated the positive impact of what reading researchers have called "intentional" comprehension instruction on the reading achievement of young people who read "below" grade level (see the works of Sailors and Price 2010, 2015).

## 11.3 Development of "Kits"

While we agree that curricular materials are primarily for teachers, curricular "kits" can be used as tools for learning. In this section, we describe the development of the inquiry kits that were the focus of our work in this partnership. While there were many commercial programs available for our partners to purchase, few of those commercially available programs specifically focused on and reading

comprehension strategies. Furthermore, of those commercially available programs that may teach comprehension, most of them do not explicitly teach metacognition, nor are they grounded in authentic, meaningful literacy events with readers. And, none (to our knowledge) were framed from a motivational perspective. Because of these reasons, the locally developed intervention was sufficiently different from the status quo.

### *11.3.1 Curriculum Development*

*Surveying the Lay of the Land* Our first entry into the development of these materials was oriented around what the children and young people in SISD schools wanted to learn. Thus, we surveyed the children and young people in grades 3–6. We organized their responses on the surveys into categories. Our categories yielded topics such as animals (sea, land, African, and domestic), mustaches, space, sports, history of "old" places, robots, art, music, mythology, medicine, transportation, vocational careers and colleges, wars, movies/animation, fashion, engineering, dinosaurs, languages, electronics/technology, famous people, volcanoes, urban legends, physical science, Native Americans, food, families, and chemistry.

In order to write "meaty" curriculum that the children and young people could engage deeply, we moved the topics to themes, thus allowing us to present an inquiry kit that would allow for inquiry questions and deep exploration of a concept as well as the tools and materials that supported that concept. For example, we took the topic of mustaches (which many children listed), expanded it, and gave it the title "I must-ask you a question about your hair." In this kit, students evaluate different perspectives of beauty and how stereotypes around body hair are formed. Another topic—volcanoes—was expanded and given the title "natural disasters" which involved the theme of "displacement of people" through which students gained expertise in the subject matter, and created spaces in which they used their knowledge to be agents of change. The following is the introduction to the kit:

> The resources of a society, including sustainability and disaster resilience, are never equally distributed, although certain more so in some societies than others. We need to think about sustaining a good quality of life across all aspects of society, not just for the people who have the money and resources. There are also people who need protection and assistance to enable them to either return to a safe and inhabitable property, or assistance in integrating locally in the area to which they have fled or to settle elsewhere. This kit will allow students to investigate how families survive natural disasters and begin to rebuild their lives, as well as explore natural disasters, and how these traumatic events have changed people's lives.

*Teams of Writers* We engaged a team of 20 teachers in the school district to support the writing of curriculum that supported the inquiry kits. Our goals for working with the teachers included the completion of the products, but more importantly, an avenue for engaging these teachers in conversations about meaningful (and motivating) reading instruction. Many of them were seemingly unaware that inquiry was part of

their State curriculum and many of them became re-energized with our stance toward motivating children and young people. In fact, they loved the topics their children and young people choose and the teachers were seemingly motivated themselves to complete their inquiry kit. We allowed them a budget of $350/kit, which included 25–30 books on varying reading levels, a teachers' guide (which they authored), reading strategy anchor charts, and jokes and poems to accompany the theme.

Across a two-day workshop, teachers conceptualized the inquiry kits by exploring a pre-made inquiry kits as they considered larger issues of social justice. In addition to providing future kit developers with model kits, we de-fossilized our thinking processes in an attempt to make the invisible visible (Sailors and Price 2010). During the workshop, kit developers worked in teams as they practiced extending topics into themes that moved learners towards powerful investigations. Finally, the team's co-authored teacher guides intended to engage readers in ways that would appeal to students' interest and carry a message of social justice. Through this process, district-level kit developers gained knowledge about the role of motivation and interest on the literacy development of students as well as the nuances associated with selecting text and crafting teacher's guides. Aligned with the research on motivation and interest, kit developers selected topics of their choosing and committed to independently develop the inquiry kit(s) inclusive of all supplemental material within the given time parameters. Members of the research team acted as editors and supported the kit developers throughout the creation of the kit and the crafting of the teachers' guide.

*What's Important for Reading Intervention Instruction?* We worked with teachers to develop the kits toward a set of components for reading intervention programs described by the literature (see Allington 2009). There are nine suggested points to a reading intervention program, including reading intervention programs that match readers to texts, especially texts that are interesting for readers. Second, a well-developed reading intervention program will dramatically expand the opportunities of readers to read (and write). Third, a well-developed reading intervention program will utilize small group (or tutoring) instruction. Fourth, a well-developed reading intervention program is highly coordinated with Tier I (developmental) classroom instruction. Fifth, expert teachers (in our case, reading interventionists) facilitate the learning inside a well-developed reading intervention program. Sixth, a well-developed reading intervention program focuses on building metacognition in readers. Seventh, a well-developed reading intervention program is cohesive. And, finally, a well-developed reading intervention program is formative and grounded in data from the reader.

*The "Big Ideas" that Guided Development* We worked with the teachers to develop the kits toward a set of "big ideas." These big ideas were garnered from the literature on teaching comprehension and metacognition strategies to children and young people who struggle with learning to read (see Sailors and Price 2015). First, readers are "nudged" to the edge of development. That is, reading teachers gently lead

readers into complex texts, grounded in the interest of the reader. Second, readers have multiple types of texts available to them within a print-rich environment. Third, readers read. A lot. Fourth, readers are given multiple opportunities to engage in comprehension strategies and those opportunities are authentic (fulfill a purpose) and are grounded in generating data for the Inquiry chart. Fifth, readers have access to the "secrets" of reading strategies (declarative, conditional, procedural) at the time they need them (generated by formative data) and readers see how reading strategies work in tandem with each other. Sixth, readers engage in inquiry as a way of building toward expertise. Finally, readers "see" a bigger purpose for reading and writing; that is, they "see" that literacy is something they can use to understand their world and make changes to it through these inquiry kits.

*Accompanying Teacher Guides* Research has demonstrated that guides are helpful to teachers when employing new programs and practices. We designed accompanying guides for each of the kits; these guides were designed using a patterned approach (rather than a prescribed one)—once teachers grew accustomed to the patterns in the guides, then they could implement in ways that are responsive to their readers. The guides connect to the State standards. The guides suggested an "entry book" and a way to access prior knowledge of students. The guides also suggested a set of research questions that would drive the culminating projects. The guides offered cross-curricular activities that allow for interdisciplinary teaching and learning. The guides supported language development (for our emergent bilinguals) through jokes and poems.

And, in addition to the books that populate the kits, we suggested online websites for reading materials and local resources (experts) who would be willing to visit and serve as interviewees for the students, allowing them to practice interviewing skills. The kits are oriented around reading comprehension strategies and metacognition. We drew from research on effective intervention programs and developed the kits to provide students with opportunities to engage in authentic acts of comprehension so that their teachers can explicitly teach them how to be metacognitive in their use of reading strategies.

The culminating project affords readers the opportunity to share their expertise with a larger audience while suggesting ideas for students to make a difference in the local or global community e.g. create posters to raise awareness of critical issues such as animal displacement as a result of natural disasters. Throughout this process, kit developers adhered to guiding principles of motivation theory, namely students' need for a clear sense of purpose, choice, and inquiry (Fisher and Frey 2012; Fairbanks 2000). In total, we developed 84 kits: 60 supported English instruction and 24 supported young people who were emergent bilingual (Spanish/English).

## 11.4 Implementing the "Kits"

Entry into a kit is dependent on the interest of each student; the reading interventionists (who are the primary users of the kits with children/youth) are encouraged to group students around those interests within the readability levels of students so that students can practice their burgeoning set of reading strategies (word identification, fix-up and ongoing comprehension). We intended the kits to be used across a 6-week period of time; students are placed in groups of 4–6 and are provided intentional instruction throughout the 30–45 min. time period (typical time allocated to Tier II instruction) by their reading interventionist. There is an "entry" read aloud book that the reading interventionist will use to access prior knowledge about the kit's topic. Following the prior knowledge activity, the reading interventionist will work with students to generate a list of research questions that will be the impetus for the engagement with materials; these questions guide the I-chart that accompanies each kit (Hoffman 1992). Students will use the materials in the kit to answer the questions, thus providing authentic purposes for engagement with comprehension strategies, such as skimming/scanning, making connections, inferring (drawing conclusions and predicting), determining main idea/theme, integrating external text features, previewing, recalling, summarizing, setting a purpose, visualizing, and synthesizing. Engagement with the texts also offers opportunities for teachers to teach fix-up strategies and word identification strategies. As students find answers to their questions, they (with support from the reading interventionist) populate the inquiry chart.

Throughout the process, the reading interventionist directly teaches these strategies but in particular order as research has indicated that students are capable of 'bundling' strategies as they learn them (Reutzel et al. 2005). Upon completion of the I-chart, students engage in synthesizing across sources to find and disseminate answers to their research questions. We encouraged reading interventionistss to host "expert" programs so that stakeholders can see what the students were learning and so that students can talk about their learning and reading process.

Throughout, the reading interventionists use the daily interactions with students for formative assessment purposes. The kits provide for monthly monitoring of student metacognitive progressing as well as spaces for self-reflection by students. We supported the implementation of the kits through the professional development of the reading interventionists.

## 11.5 Expected and Unanticipated Outcomes

At the time of this publication, we had only made it through 2/3 of our data collection across the year that would measure motivation. While we do not have hard data that would suggest an increase in motivation by the children and young people who use these kits daily for the reading intervention, we do have anecdotal evidence that

the inquiry kits are not only being used, but that they are appreciated by the teachers and young people who use them. Some of what the teachers told us when we asked them about their use was things we expected to hear. However, there were some unexpected outcomes we did not anticipate.

### *11.5.1 Excitement for Learning*

The reading interventionists who use the kits as their primary curriculum reported that they first and foremost used the inquiry kits to motivate students. And, that the inquiry kits have created a sense of excitement for their children and young people, as well as themselves. First and foremost, the reading interventionists allow their children and young people to choose what kit they want to work in and with whom they want to work. The reading interventionists described the inquiry kits as "hooks" for learning and involvement.

One reading interventionist talked about how she "sells" the kits at the beginning of each performance period. Selecting a handful of books for each kit, this reading interventionist displays the book prominently and engages young people in a conversation about what they think they might learn from the materials in the kit based on the displayed books. Often, because some kits are "just more popular than others," this reading interventionist has her young people list the kits they are interested in, using rank order. She assigns them to kits based on a first-come, first-served basis. Often, as is the case in other classrooms, when young people in this class do not get their "first choice," they will be assigned to their "first choice" kit following their completion of their second choice. The reading interventionists describe this as a way of teaching the young people to "negotiate their way through life."

### *11.5.2 Excitement About Books*

The reading interventionists admitted they were "overwhelmed" with the "sheer number of books" in each kit, but said that was what was initially most exciting to their children and young people as they unveiled the kits at the beginning of the year. One reading interventionist reported that it was "like someone's birthday party that everyone brought books to" when she first showed her children and young people the inquiry kits from which they could choose. Observing in one of the classrooms one day we overheard several of the children in the reading interventionist classroom bemoaning the fact that they had to go back to their homeroom, "because we don't have cool books in our classrooms like you do, [teacher]." Each time they start a new inquiry kit, one reading interventionist reported, "the young people are excited all over. It's the first time in a long time that I see them actually excited about something we're doing."

Because she's learned to be "progressive" in her teaching using inquiry-based instruction, one reading interventionist told us that she decided to form book clubs using the books in the kits (as well as other books she brings in from other sources). Book clubs were a "natural way" to engage her children and young people in the inquiry kits because they were "already engaged in literature circles" in Tier I instruction with their homeroom teacher. While she did not feel that literature circles were most appropriate for her classroom, this reading interventionist did see the connection to book clubs and thus, employed them as a way of organizing her instruction. She reported that her young people love the days when they can "curl up on the carpet reading their books in preparation for their book talks."

The reading interventionists have found that sometimes her young people ask questions for which there are no answers for in the materials found in the kits. While this is a challenge, she has started not only bringing materials herself, but she reports that her young people have also started bringing materials in order to supplement the kits.

### *11.5.3 Excitement About Reading*

In addition to the excitement for books noted by reading interventionists, the teachers in the schools told us that children and youth carry their books down the hallway, to the cafeteria, and to recess. Teachers remind students, "there is no texting and driving… there also cannot be any reading and walking" as teachers "get nervous that our students may run into a pole while they are reading and walking down the halls!" Those same teachers report that their students "are so excited about reading and it's an excitement [they] have not seen before." Teachers also report that students are more excited about coming to school because the children and youth now have "lots and lots of opportunities to read, where they didn't before." Similarly, one parent told us, "my child has never enjoyed reading before. This year I spent hundreds of dollars at the Book Fair. For the very first time, my child is asking me to read to him at night. He has never wanted me to do this! I have seen my son's love and motivation for reading for the very first time."

### *11.5.4 Affordances to Teach Reading Strategies*

As we anticipated, the reading interventionists used the kits to teach reading strategies. For example, the reading interventionists use the kits to make connections across genres for their readers. Described as "difficult for readers," one reading interventionist was excited about the affordances of the inquiry kits to teach "paired passages" as a way of helping readers make connections across texts. Additionally, the kits allowed the reading interventionist to teach strategies that they often are not able to teach because "other materials we've used in the past do not allow us to dig

in deep with texts." Some reading strategies they find themselves engaging their children and young people include finding/locating information; discerning important details from interesting facts; paraphrasing; skimming/scanning; accessing prior knowledge/assimilating information; and synthesizing.

The reading interventionists report that they use the inquiry kits as the "center points." That is, the theme of the inquiry and the questions the children and young people ask are what guides their work in the reading intervention classroom. For example, one reading interventionist has found the need to pull some reading strategies out of the context of inquiry as a way of "holding the strategy still for the children." Teaching a reading strategy very explicitly, she will then move the children back into the inquiry process as a way of making the strategy lesson immediately applicable. The reading interventionists report that they have not seen their readers "so excited to be in authentic texts in a really long time." Part of that is due to the fact that they have not used materials like the inquiry kits in the past; part of that is due to the "sheer excitement from the kids at being able to learn about 'cool' topics."

One of the reading/writing/inquiry strategies that the reading interventionists have found they need to focus on is the creating of the inquiry questions. Recognizing that many of the children with whom they would be working this year had never had the opportunity to ask their own questions before, the reading interventionists knew "it was going to be a challenge to teach them to do so now." Scaffolding them throughout, the reading interventionists report that although it has been a slow process (teaching readers how to ask inquiry-like questions), the children and young people are able to generate their own inquiry questions with assistance from their teacher. And, more importantly, the young people appear to be willing to "struggle through getting through to good inquiry questions." And, because their young people were "struggling," the reading interventionists decided to engage themselves in an inquiry project on how better to support their readers in this reading strategy. This led to the teachers realizing their own inquiry question and their "self-motivation" to engage in their own learning.

### *11.5.5 Confident Readers and Experts*

The reading interventionists were eager to share their excitement over their young people's newfound confidence as readers as a result of their work in the inquiry kits. In addition to the connections the young people could make across the texts, they more easily made connections to their personal (and political) lives than they had in the past. As a result, children in these classes were excited to move through books (even challenging ones) because they recognize they have a lot of connections to make with the books and authors of those books.

In addition to the shifting "feel" in the reading intervention classrooms, reading interventionists and teachers we talked to told us that students were reading in ways that they had not seen for a long time. In fact, classrooms teachers were starting to

see a difference in the confidence of the readers who were engaged by the reading interventionists. Reading interventionists talked about the ways their young people were involved in their conversations on the inquiry topic, that they no longer relied on their notes; conversations took off and extended well beyond the literal understandings of the text to include personal connections, applications, innovative questions and critiques of the text and/or the author in ways that supported the students' developing expertise on the inquiry topic. While we would never call the kits "magical," reading interventionists did.

### *11.5.6 Use of Inquiry by Classroom Teachers*

On one of our visits to one of the implementing campuses, we noticed that there were clearly "missing" kits from the reading interventionist classroom. Upon further exploration, we discovered that several classroom teachers had "borrowed" the kits and were implementing them in their classrooms because they wanted to "participate in the excitement around the inquiry." When we pushed them to explain, they said that the children and young people who are involved with the reading interventionists come back into the room "wearing their expert badges" and other children in their class have "started asking questions," like, "when can we start an inquiry kit?" These teachers reported that there was "no way for us not to do a kit." One-fourth grade teacher adapted and adopted the kit to meet the needs of her science curriculum. Drawing from one kit that focused on the interactive role snakes and humans inside an ecosystem, the teacher expanded the topic to be inclusive of other animals that are part of the human experience and that, subsequently, must be celebrated and protected. Rather than her normal "writing workshop," this teacher adapted her instruction, calling her room an "inquiry workshop." When asked why this was important to her she responded, "because it is important to my fourth graders. I've never, in all my 13 years of teaching, seen them so excited about reading and writing and learning."

## 11.6 Concluding Thoughts

Through this paper, we have explored the role of motivation in Tier II curriculum. We have demonstrated that motivation is a powerful theory to consider when constructing materials for children and young people who find themselves in the classroom of a reading interventionist. And, in doing so, it is our hope that others who engage in creating curricular materials will consider the role of motivation in their own work.

Likewise, we realized many teachers do not have the human capital, time, or money to create the kinds of curriculum we have described in this chapter. While this is understandable, there are many ways to think about incorporating inquiry

(that is based on the interest of children and young people in the classroom) into an existing curriculum. For example, sets of books can be brought together (oriented around a particular author) and young people can engage in an "author study." Still another teacher might want to engage her young people in book clubs oriented around a topic (e.g., World War II) and a follow-up inquiry on "what it would be like to have been a child during the war in Europe"). Likewise, teachers can create spaces where children and young people ask their own questions as a result of their interactions with books (referred to as 'wondering questions' in the literature) which lead to inquiry projects. In recognizing the role of curricular materials grounded in children and young people's motivation to read, curriculum developers, literacy specialists, and classroom teachers are also considering the role of young people in creating their own path through life, thus creating spaces where children can become "fully human" (Freire 1971) and grow into the person she can become.

## References

Allington, R. L. (2009). *What really matters in response to intervention: Research-based designs*. New York: Pearson.

Alvermann, D. (2008). Why bother theorizing adolescents' online literacies for classroom practice and research? *Journal of Adolescent & Adult Literacy, 52*(1), 8–19. https://doi.org/10.1598/JAAL.52.1.2.

Barlow, D. H., & Hersen, M. (1984). *Single-case experimental designs: Strategies for studying behavior change* (2nd ed.). New York: Pergamon Press.

Blumenfeld, P., Soloway, E., Marx, R., Krajcik, J., Guzdial, M., & Palinscar, A. (1991). Motivating project-based learning: Sustaining the doing, supporting the learning. *Educational Psychologist, 26*, 369–398.

Bruner, J. (1977). *The process of education*. Cambridge: Harvard University Press.

Chisholm, J. S., & Godley, A. J. (2011). Learning about language through inquiry-based discussion: Three bidialectal high school students' talk about dialect variation, identity, and power. *Journal of Literacy Research, 43*, 430–468.

Coburn, C. E., Penuel, W. R., & Geil, K. E. (2013). *Research-Practice Partnerships: A strategy for leveraging research for educational improvement in school districts*. New York: W. T. Grant Foundation.

Conradi, K., Jang, B. G., & McKenna, M. C. (2014). Motivation terminology in reading research: A conceptual review. *Educational Psychology Review, 26*, 127–164.

Coryell, J., Sailors, M., Sehin, O., & Nelson, R. (2016). Capacity building at mid-programme: An international education development programme in Malawi. *Development and Practice, 26*, 272–284.

David, J. (2008). What research says about project-based learning. *Educational Leadership, 65*, 80–82.

De Naeghel, J., Valcke, M., De Meyer, I., Warlop, N., van Braak, J., & Van Keer, H. (2014). The role of teacher behavior in adolescents' intrinsic reading motivation. *Reading and Writing, 27*, 1547–1565.

De Naeghel, J., Van Keer, H., Vansteenkiste, M., & Rosseel, Y. (2012). The relation between elementary students' recreational and academic reading motivation, reading frequency, engagement, and comprehension: A self-determination theory perspective. *Journal of Educational Psychology, 104*, 1006–1021.

De Naeghel, J., Van Keer, H., Vansteenkiste, M., Haerens, L., & Aelterman, N. (2016). Promoting elementary school students' autonomous reading motivation: Effects of a teacher professional development workshop. *Journal of Educational Research, 109*, 1–21.

Duffy, G. G. (2002). The case for direct explanation of strategies. In C. C. Block & M. Pressley (Eds.), *Comprehension instruction: Research-based best practices* (pp. 28–41). New York: Guildford Press.

Duffy, G. G. (2009). *Explaining reading. A resource for teaching concepts, skills, and strategies*. Guilford Press.

Duffy, G. G., Roehler, L. R., Meloth, M. S., Vavrus, L. G., Book, C., Putnam, J., et al. (1986). The relationship between explicit verbal explanations during reading skill instruction and student awareness and achievement: a study of reading teacher effects. *Reading Research Quarterly, 21*, 237–252.

Duffy, G. G., Roehler, L. R., Sivan, E., Rackliffe, G., Book, C., Meloth, M. S., et al. (1987). Effects of explaining the reasoning associated with using reading strategies. *Reading Research Quarterly, 23*, 347–368.

Easterly, W. (2006). *The White man's burden: Why the West's efforts to aid the rest have done so much ill and so little good*. New York: Penguin Press.

Edmunds, K. M., & Bauserman, K. L. (2006). What teachers can learn about reading motivation through conversations with children. *The Reading Teacher, 59*, 414–424.

Fairbanks, C. (2000). Fostering adolescents' literacy engagements: "Kid's business" and critical inquiry. *Reading Research and Instruction, 40*(1), 35–50.

Fisher, D., & Frey, N. (2012). Motivating boys to reading; Inquiry, modeling, and choice matter. *Journal of Adolescent & Adult Literacy, 55*, 587–596.

Freire, P. (1971). *Pedagogy of the oppressed*. New York: Continuum.

Gambrell, L. (2009). Creating opportunities to read more so that students read better. In E. Hiebert (Ed.), *Reading more, reading better* (pp. 251–266). New York: Guilford.

Guthrie, J. T. (2004). Differentiating instruction for struggling readers within the CORI classroom. In J. T. Guthrie, A. Wigfield, & K. C. Perencevich (Eds.), *Motivating reading comprehension: Concept-Oriented Reading Instruction* (pp. 1–24). Mahwah: Erlbaum.

Guthrie, J. T., Wigfield, A., & VonSecker, C. (2000). Effects of integrated instruction on motivation and strategy use in reading. *Journal of Educational Psychology, 92*(2), 331–341.

Guthrie, J. T., Wigfield, A., & You, W. (2012). Instructional contexts for engagement and achievement in reading. In S. L. Christenson, A. L. Reschly, & C. Wylie (Eds.), *Handbook of research on student engagement* (pp. 601–634). New York: Springer.

Harada, V. H., & Yoshina, J. M. (2004). *Inquiry learning through librarian-teacher partnerships*. Worthington: Linworth Publishing.

Henk, W. A., Marinak, B. A., & Melnick, S. A. (2012). Measuring the reader self-perceptions of adolescents: Introducing the RSPS2. *Journal of Adolescent & Adult Literacy, 56*, 310–311.

Hoffman, J. (1992). Critical reading/thinking across the curriculum: Using I-charts to support learning. *Language Arts, 69*, 121–127.

Jobrack, B. (2012). *Tyranny of the textbook*. Lanham: Rowman & Littlefield Publishers.

Marx, R. W., Blumenfeld, P. C., Krajcik, J. S., & Soloway, E. (1997). Enacting project-based science challenges for practice and policy. *Elementary School Journal, 97*, 341–358.

McCormick, S. (1995). What is single subject experimental research? In S. B. Neuman & S. McCormick (Eds.), *Single subject experimental research: Applications for literacy*. International Reading Association: Newark.

Neuman, S. B., & McCormick, S. (Eds.). (1995). *Single-subject experimental research: Applications for literacy*. Newark: International Reading Association.

Pressley, M. (2000). What should comprehension instruction be the instruction of? In M. L. Kamil, P. B. Mosenthal, P. D. Pearson, & R. Barr (Eds.), *Handbook of reading research* (Vol. 3, pp. 545–562). Mahwah: Lawrence Erlbaum.

Pressley, M., Borkowski, J. G., & Schneider, W. (1989). Good information processing: What it is and how education can promote it. *International Journal of Educational Research, 13*, 857–867.

Reutzel, D. R., Smith, J. A., & Fawson, P. C. (2005). An evaluation of two approaches for teaching reading comprehension strategies in the primary years using science information texts. *Early Childhood Research Quarterly, 20*(3), 276–305.

Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist, 55*, 68–78.

Ryan, R. M., & Deci, E. L. (2009). Promoting self-determined school engagement: Motivation, learning, and well-being. In K. R. Wentzel & A. Wigfield (Eds.), *Handbook on motivation at school* (pp. 171–196). New York: Routledge.

Sailors, M. (2013). Making literacy a "pervasive part" of a second grade classroom. *Pennsylvania Reads, 12*, 7–15.

Sailors, M. (2016). Working in tandem: Improving reading achievement through a University/School District partnership. Meet the Researcher Poster presentation at the annual meeting of the International Literacy Association.

Sailors, M., & Price, L. (2010). Professional development that supports the teaching of cognitive reading strategy instruction. *Elementary School Journal, 110*, 301–323.

Sailors, M., & Price, L. (2015). Support for Improvement of Practices through Intensive Coaching (SIPIC): A model of coaching for improving reading instruction and reading achievement. *Teaching and Teacher Education, 45*, 115–127.

Van Kleeck, A., vander Woude, J., & Hammett, L. (2006). Fostering literal and inferential language skills in Head Start preschoolers with language impairment using scripted book-sharing discussions. *American Journal of Speech-Language Pathology, 15*, 85–95.

Wells, G. (1999). *Dialogic inquiry: Toward a sociocultural practice and theory of education*. New York: Cambridge University Press.

Wigfield, A., & Guthrie, J. T. (1997). Relations of children's motivation for reading to the amount and breadth of their reading. *Journal of Educational Psychology, 89*, 420–432.

Wigfield, A., Eccles, J. S., & Rodriguez, D. (1998). The development of children's motivation in school contexts. In P. D. Pearson & A. Iran-Nejad (Eds.). Review of Research in Education, 23, 73–118.

# Chapter 12
# Teaching Today the Readers of Tomorrow


**Liliana Borrero Botero**

**Abstract** The purpose of this chapter is to provide valuable instructional approaches to meet the different learning needs of boys and girls in reading. The effective literacy instructional approaches addressed here are the result of the strategic combination of relevant research contributions from diverse fields in education such as neuroscience, cognitive psychology and well-known literacy organizations. Neuroscience has shed light to understand how the brain learns so that we can develop teaching practices aligned to brain-based learning. Cognitive psychology allows us to explain gender differences that explain why boys and girls think, communicate, and behave differently. Significant studies completed by the *Early Literacy Reading Panel*, the *National Research Council*, and the *National Reading Panel*, inform us about the essential components of literacy instruction and when these should be taught. The compilation of these solid research-findings inform the how, why, what, and when of effective literacy instruction so that we can design early intervention programs and a variety of instructional approaches that can successfully address reading motivation and literacy achievement in boys and girls. Therefore, using this research-based information to teach today the readers of tomorrow certainly becomes an educational challenge.

**Keywords** Literacy instruction · Gender differences · Brain-based learning · Cognitive psychology · Reading motivation · Literacy achievement

## 12.1 The Power of High-Quality Teachers

With the cutting-edge contributions of neuroscience to the field of education, the teaching profession is not merely an art, but it has also become a science. In fact, teaching is the art and science of changing the brain. Although there is no single instructional strategy guaranteed to work with every single student, and there are no truths in science but facts, we know from the research on the brain which strategies

L. Borrero Botero (✉)
Colegio Nueva Granada, Learning Programs, Bogotá, Colombia, USA
e-mail: lborrero@cng.edu



P. Orellana García, P. Baldwin Lind (eds.), *Reading Achievement and Motivation in Boys and Girls*, Literacy Studies 15,
https://doi.org/10.1007/978-3-319-75948-7_12

work best. We also know from research that we all learn in different ways (Snow 1977; Kozhevnikov 2007; Sternberg et al. 2008; Pashler et al. 2009), and that there are gender differences between boys and girls in how they learn and engage in literacy (Gurian 2001). Therefore, it is important for teachers to use scientific knowledge about how the brain learns to expand the horizons of their practice in providing equitable learning opportunities for all students.

Exemplary teachers intentionally differentiate instruction to address the needs of all diverse learners and to engage them equally. Differentiated instruction is the hallmark of an accomplished teacher. Teachers who are responsive to the individual interests of their students, design strategies that motivate boys and girls to read by connecting them with books they choose to read, so that they enjoy reading. By building on their students' backgrounds, teachers can implement effective instructional practices that increase achievement and engagement in all students in the classroom. Outstanding literacy teachers differentiate their teaching in such a way that they ensure that all readers have books they can accurately and fluently read so that they can understand what they read and eventually, enjoy reading.

Teacher quality is the most powerful variable that can positively impact student learning. Every child can learn if they are fortunate to have teachers who can teach them according to the way they learn and provide enough opportunities to practice in order to achieve mastery. Teaching students the way they learn is not limited to tailoring instruction to their learning preferences; it also involves an active exploration of their interests and affinities to affirm their motivation to learn and enjoy reading. Literacy teachers should feel empowered and nourished by research-based practices in literacy instruction that allow them to provide more powerful ways to engage readers in the joy of reading than ways for them to disengage from literacy.

## 12.2 Boys and Girls Learn to Read and Enjoy Reading Differently

The amount of evidence worldwide indicates that gender is a significant factor in reading choice of texts and reading achievement. It is a fact that boys not only tend to take longer to develop reading and writing skills, but also tend to read less than girls and to lag behind girls in reading achievement. There is broad consensus among neurologists and cognitive psychologists that brain development may explain differences in early literacy in boys and girls. Due to biological differences tied to gender, boys are generally slower to develop linguistic abilities than girls (Margolis 2006). This may be one of the reasons why boys often struggle with reading and writing skills early on. This is worsened by the fact that mastery in literacy skills is expected at a much earlier age than ever before in most schools nowadays. Sadly, many teenage boys become unmotivated readers, which often translates into underperformance in reading. Worldwide, girls read more and also report reading more than their male peers (Logan and Johnston 2010).

In general terms, girls develop communication skills quicker and earlier. These early-developed communication skills allow young females to display superior early readings skills. Boys develop literacy skills approximately 12–24 months later than girls. The slower growth of the left cortex of the male brain explains this slower pace of development in boys. Although boys are more physically active in their learning, they are also slower than girls to develop impulse control and fine motor skills necessary for writing.

Results from international assessments consistently show that boys lag behind girls on the reading and writing sections of standardized tests. This is not a new trend; as a matter of fact, according to the US Department of Education, reading tests for the past 30 years show lower reading performance in boys than girls in every age group and every year. For instance, results from the Programme for International Student Assessment (PISA) back since 2000 show that girls perform better than boys on the reading test in all countries. The findings of the Progress in International Reading Literacy Study (PIRLS) in 2001 also support this trend by revealing that girls in 4th grade perform better than boys in reading in all 34 countries. With this universal pattern of male underperformance in reading it is not surprising that college enrollment has become higher for girls than boys.

Regarding reading preferences, girls often choose to read mostly fiction literature related to love and relationships. On the other hand, boys also read fiction subgenres but they prefer to read non-fiction and informational texts, such as magazines, newspaper articles, and instruction manuals and topics about sports, war, and spies. Males like to read books that make them laugh and appeal to their sense of mischief and fiction that focuses more on action than emotions, and books in series which give them comfort and familiarity (Moloney 2002). Culturally speaking, boys do not usually feel comfortable reading about the feelings and emotions found in fiction because they are often expected to suppress their own feelings, depending on the cultural context they are immersed in. Interestingly, girls tend to read more for enjoyment, whereas boys read to acquire information and to learn how to do something.

It is essential for teachers to acknowledge gender differences to understand how boys and girls learn to read differently, but most importantly, to use this information to shift from explaining these differences to designing appropriate pedagogical interventions to differentiate instruction and to equally engage them in reading. For example, in most early elementary grades, students experience reading fiction texts, whereas informational texts are less frequently read. Studies have also shown that classroom libraries contain more fiction than non-fiction books (Duke 2000; Young and Moss 2006). If boys tend to choose to read more non-fiction than fiction books, their opportunities to interact with these books decrease dramatically if classroom libraries lack a sufficient amount of this sort of books, and it is therefore not surprising that their motivation to read should drop very early in their schooling.

## 12.3 The Psychology of Reading Motivation and Engagement

Given that the brain is the organ in which learning takes place, it is necessary to start by understanding how the brain learns when it comes to teaching. One of the most important contributions of neuroscience to education is this "teaching with the brain in mind" maxim: emotion drives attention, attention drives learning (Sylwester 1994). If we want to maximize learning, we need to start by making learning emotionally appealing for each and every student. Emotion and interest come before learning, and they determine if we will attend and sustain attention. Sustained attention, a key factor necessary to consolidate learning, can be augmented by interest or undermined by the lack of it. As a consequence, tapping on our students' interests is one sure way to trigger motivation to set up the mind for new learning.

Another important contribution from the science of learning is the understanding of the social and emotional nature of the human brain. Humans feel a strong need to connect and to feel safe. Students learn in ideal conditions when they can bond with a caring and nurturing teacher. This positive emotional connection enacts a feeling of safety that unleashes the brain's learning potential. Instead of being worried about survival or afraid of abandonment, the child can use all the mental energy to activate the brain cortex and start making new neural connections sculpted by the learning experience.

Reading motivation is not foreign to the social brain. The amount of time a child spends listening to parents or loved ones read continues to be the one best predictor of later reading (Wolf 2007). When a child listens to someone reading and sees his or her significant caregivers read, this emotional bonding is somehow transformed into the habit and love for reading. The following quote from an interview that author Maurice Sendak gave to Marion Long beautifully depicts this magical phenomenon:

> When my father read to me, I leaned into him so I became part of his chest or his forearm. And I think children who are hugged, and children who are held on laps—nice yummy laps—will always associate reading with the bodies of their parents, the smells of their parents. And that will always keep you a reader. Because that perfume, that sensuous connection is lifelong. We're only animals. And you watch puppies needing to be licked to survive. Well, we need to be licked to survive. And reading becomes a licking, if you will. When you not only hear a treasured story, but also are pressed against the most important person in the world, a connection is made that cannot be severed (Sendak 2004).

When students have caring teachers with whom they can bond, they also develop an interest to connect with what matters to their teachers. This is the case of "blessed books", which are books chosen and valued by teachers, that lead students to want to read them. This is a powerful strategy to introduce a particular topic or genre. When a teacher wishes to expand student-reading choices or to ignite their interest in a given book, he or she should try to select a book and read it, at least portions of it, aloud. They should not be surprised if the selected book soon becomes an all-time classroom favorite.

An implication of the social brain is the need to interact with others. There is an intrinsic social motivation in shared reading. Providing students with time to talk about the books they read is an important factor in reading motivation (Gambrell and Marinak 2009). Discussion and collaboration are a natural part of learning and social development. Not only children enjoy sharing their reading experiences with their peers, they also develop social and communication skills when doing so. Time for students to talk about their reading and writing is perhaps one of the most underused, yet easy to implement, element of instruction (Allington and Gabriel 2012). Research has demonstrated that conversations with peers improve comprehension and engagement (Cazden 1988). Similarly, it occurs when students have the opportunity to get involved in conversations about the books they read, reading comprehension and engagement increase. A quiet, silent classroom is not necessarily an indicator of student learning or engagement. We do not learn in a vacuum; we learn from others and with others.

Motivation is only one factor that can contribute to an increase in reading achievement, but it is a necessary one. Although the psychology of motivation has many dimensions, there are four factors that have been found critical to foster student achievement: competence, autonomy/control, interest/value, and relatedness (Bandura 1996; Dweck 2010; Pintrich 2003; Ryan and Deci 2000; Seifert 2004). Competence refers to self-efficacy, the feeling of being capable. Human beings enjoy success, and in normal conditions, they tend to avoid situations that set themselves to failure. As a consequence, chances are that students take the risk of embarking in any task more easily when they have the perception that they can do it. When students have the opportunity to read books they can comprehend at their independent level or "just right books", they are more likely to feel more capable of reading that book successfully before they even open it. Self-efficacy becomes a virtuous cycle that feeds itself. The more a student is able to read successfully, with accuracy, fluency, and comprehension, the better he or she will read, the more likely he or she will enjoy reading and choose to read in the future. Becoming an engaged reader has little to do with reading difficult books; it is about having the opportunity to have successful reading experiences in life (Allington 2009). Competence can also be enhanced through differentiation, explicit and effective instruction of all the reading skills, enough time to practice, and the provision of "just right books" to fit all levels of reading ability.

The opposite is also true. If a student feels incapable of reading a text or struggles to decode it automatically and with understanding, he or she will most likely stop or avoid reading. At times, children choose to read easy books because they feel insecure, and this is fine. It is often better to have them read a text that is below their reading ability level, than not reading at all. Once a reader sees that there is a correlation between effort and positive results, self-confidence and motivation to try similar or more challenging books increases.

Practice fosters self-efficacy. As with any other skill, reading proficiency requires practice. Readers become good readers by reading. But any reading practice does not make perfect readers. It needs to be good practice. Good reading practice necessarily implies having students read books they select, and that they can understand

at their independent reading level. Bandura (1986) suggests that motivation is the consequence of a person's self-efficacy related to a task. We need to ensure that students read "just right books" and to engage in successful reading so that they can experience this feeling of self-efficacy. Success is the most powerful motivator and reading mastery can only be acquired through reading practice. According to Allington (2009) and Kuhn et al. (2006), it is not only time spent reading what matters, but the intensity and volume of high success reading what determines a student's progress in learning to read.

Early intervention is essential to reading motivation. We need to catch struggling readers before they fall, to avoid negative reading experiences which can dramatically harm their motivation to read. We are fortunate to have abundant scientific literature that allows us to identify early signs of reading difficulties to intervene proactively and prevent reading failure. All K5 students should be screened for letter names, print knowledge, phonemic awareness, vocabulary knowledge, and oral language to identify students at risk before they become struggling readers and provide the necessary supplementary interventions.

Autonomy and control have to do with choice. People buy in more easily when they can choose based on their individual preferences, ability, and interests. The fact of being able to choose also gives a sense of ownership and control. "The research base on student-selected reading is robust and conclusive: students read more, understand more, and are more likely to continue reading when they have the opportunity to choose what they read" (Allington and Gabriel 2012, p. 1). When it comes to reading, students have personal interests and preferences related to text topic, genre, and format. The same occurs with writing or responding to reading. Students should also be provided with menu options for book reports. This is why it is important that students have access to many books so they can make personal reading choices. Note this word of caution; having students choose what to read does not mean that they will never be required to read a teacher or a course-selected text, but they should be able to choose what they read at some point each day at a minimum.

According to Guthrie and Humenick (2004), a wide variety of books from where to choose and the possibility of making personal choices of what to read are the two most important design factors for improving reading motivation and comprehension. A wide range of variety of books and texts available should be used for both, reading instruction and independent reading. Teachers need to be cautious not to give too many choices that can be overwhelming for the student. Effective teaching should scaffold choices by starting at a basic level of selection, that is, by helping students make good choices first and providing feedback about such decisions. A good way to get started is to select a topic, genre or format, and provide two books or texts from which the students can choose from. Even when the teacher selects a topic, the students can still make a choice. The idea is that eventually students can make reading choices for content, process, and product. Subsequently, they will end up making multiple choices in a lesson such as topic and book selection, individual, pair or group reading, and the end product.

Value is related to having a reason for doing something. In the case of reading, it implies valuing reading as something that is personally important. Ideally, the value of reading would include its relevance for long-term enjoyment and personal development. The most common reason for leisure reading is the underlying feeling of pure enjoyment. In ideal conditions, students should be able to see the correlation between reading habits and real life outcomes. We see value in things that interest us for some reason. Teachers, who are receptive to their students' individual preferences, get to know their students. They use strategies such as profile cards and surveys to discover what their students are interested in and want to learn about.

A key point needs to be made here in relation to the value of reading for boys. Not only males are asked to read many books that do not appeal to them, but unfortunately, there is an underrepresentation of male teachers and there is a strong media influence that distorts the image of masculinity, which gives reading a feminine connotation. The role models that boys see in popular culture, such as television, movies and video games, do not depict reading engagement as a masculine preference (Marks 2008). Boys do not have enough positive male role models for literacy. Bringing successful male reading models into the classroom, so they can see men read too, has proven to be an effective practice to motivate boys to read. Author Jon Scieska developed an innovative website named *Guys Read* (http://www.guysread.com) to provide boys with appealing reading material.

People find relevant tasks interesting because familiar things allow them to make connections, a key driver in the learning process and motivation. Activation of prior knowledge is a common practice that allows the learner to glue the new information to prior schema and facilitates understanding. Familiarity nurtures reading motivation. When the reader notices that the text is linked to his or her real life experiences it gives him or her a reason to get started and to persist until the end, while allowing him or her to read with meaning. When the reader senses that the text has immediacy, that it is related to his or her life in the here and now, it becomes more motivating.

Motivation to read and reading engagement are deeply interconnected. Gambrell (2009, 2011) defines motivation to read as the likelihood of engaging in reading or choosing to read. Highly engaged readers are intrinsically motivated to read and they choose to read for a variety of purposes. The four motivation factors discussed — competence, autonomy/control, interest/value, and relatedness— have the power to increase reading engagement.

It can be inferred that doing opposite things such as discouraging certain texts, providing a limited selection of genres, insufficient practice in choosing appropriate books, and using reading activities as time fillers will kill motivation to read (Millard 1997). To sum up, students will read with motivation and engagement when they are allowed to read books they can read and want to read.

## 12.4 Reading Choices for Boys and Girls

Research findings are compelling: when students select reading texts, their reading engagement and performance increases (Krashen 1989). Parents and teachers need to provide books that boys and girls like to read if they want them to develop the habit and love for reading. In order to satisfy the reading preferences of all students, there should be an abundant variety of books and reading texts for all tastes. A varied selection of reading texts is not limited to offering fiction and non-fiction. Besides a wide range of genres and topics, an attractive classroom library or home library should also include non-print resources (e.g. CD ROMs), popular as well as traditional literature, and texts that match varied reading levels or Lexiles. Students should not have to decide between books or screens, they should decide about what they want and can read. Other than textbooks, classroom libraries typically offer mostly fiction. An easy way to promote reading motivation is to involve students in the selection of reading material for the classroom.

The teachers of today need to be aware of the fact that the need to expand the definition of literacy to embrace the popular culture and digital literacy is a must if they do not want to have students left out. Culturally speaking, narrative can have a variety of forms that range from written, to oral, visual, musical, or even a combination of the four. Computers and digital devices provide new forms of language that can be added to the traditional book-based literacy. Boys and girls equally need to know that all these new versions of literacy count as reading. The fewer choices students have from the existing options available, the greater the chances they will not find a text they want to read.

Boys tend to read texts that are not commonly valued by teachers. Since boys do not read teacher-privileged literary fiction texts at home, many of them classify themselves as non-readers, even if they do extensive reading from the Internet, magazines, and newspapers (Cavazos-Kottke 2005). Moloney (2002) also highlights that when boys read these materials many consider they are not reading precisely because these materials are not valued in school. Boys like books that are "storied", which use "a narrative approach that focuses more on plot and action than on description, are visual, such as cartoons and graphic novels, providing multimedia experience, are edgy or controversial, are funny-appealing to boys' taste of humor" (Smith and Wilhelm 2002, p. 150). Teachers, as well as parents, need to broaden the definition of literacy to embrace the kinds of texts boys like to read. Literacy is the intertwined connection between reading and writing, the two sides of the same coin. For quite a few students, writing can be the avenue to reading. Therefore, having boys write in response to their reading or in the genre of their preference, can increase their reading performance, motivation, and engagement:

> In one sense, reading and writing represent the choice of language over physical action, the vicarious over the actual. But writing time often provides the most open space (outside recess) in the curriculum – a space to enact fantasies of power, adventure and friendship. And as many boys claim, when they are writing these adventures, they feel themselves physically inside the stories. Rather than denying the physical needs of boys, writing can employ that energy –if we keep the space open for their play (Newkirk 2002, p. 178).

Once abundant fiction and non-fiction texts are honored, recognized in all forms of literacy, and are provided in printed and digital format, let students know that all these materials count as reading:

| | | |
|---|---|---|
| Adventure | Foreign Language | Newspapers |
| Audio Books | Geography | Novels |
| Arts | Graphic Novel | Nutrition |
| Beauty | Gossip | Parables |
| Biographies | Health | Plays |
| Cartoons | Holidays | Poetry |
| Comics | Horror | Religion |
| Current | Affairs How-to | Romance |
| Detectives | Humorous | Science |
| Diaries | Informational | Science Fiction |
| Drama | Instructions | Series |
| Encyclopedias | Jokes | Songs |
| Experiments | Legends | Sports |
| Fables | Letters | Supernatural |
| Fantasy | Magazines | Technology |
| Fairy Tales | Mystery | Thesauruses |
| Fashion | Myths | Travelling |
| Fitness | Nature | Websites |

Ensuring that boys and girls can find books they want to read is one essential factor that fosters reading motivation and engagement. However, it is of utmost importance that the reading material students choose to read not only matches their personal interests, it should also be aligned to their independent reading level. When a selected reading material fulfills these two conditions it is referred as to a "just right book". Self-selected texts that correspond to their independent reading level is a powerful formula that generates reading motivation and engagement, while providing students with high-success reading. To improve reading performance and nurture the joy of reading, students must read accurately and must be able to understand what they read. Research shows that reading at 98 percent or higher accuracy is essential for reading acceleration (Allington and Gabriel 2012). This implies that a text can be considered at the independent reading level when the reader can accurately decode 98 words out of 100. Students need to be taught explicitly how to find reading material at their independent reading level. The ability to select appropriate texts for themselves increases the likelihood of students reading outside school (Reis et al. 2007).

## 12.5 Teaching and Learning to Read

Reading is a language-based skill that has a method and a purpose. Different fields, such as neuroscience, neuropsychology, and cognitive psychology, are now in agreement that reading should be taught based on letter-sound correspondence (Dehaene 2009). Therefore, the methodology of the formal teaching of reading must begin with the explicit instruction of letters and the sounds they represent in the language. Building the neural connections that allow us to make the automatic connection between the orthographic system (what we see), with the phonological system (what we hear), and the semantic system (what we know) is one of the most demanding and challenging tasks because the human brain does not have areas specialized in reading. To achieve fluent reading with meaning, the brain must connect the letters it sees on paper or screen, with the sounds those letters make, and the meaning of the word those letters create in nanoseconds. This overwhelming task, for which the human brain is not naturally designed, should not be left to chance. "It took our species roughly 2000 years to make the cognitive breakthrough necessary to learn to read with an alphabet, today our children have to reach those same insights about print in roughly 2000 days" (Wolf 2007, p.19).

Important literacy publications have established a reading curriculum based on the research-findings of how the brain learns to read and how reading should be taught. The truth is that the foundations necessary to successfully learn to read are developed early in life and prior to formal schooling. According to the National Research Council (1999), pre-school children benefit tremendously from shared book reading, the development of phonological awareness, and the connection between oral language and print. Based precisely on these research-based practices in neuroscience which awaken the wonder of language and sounds, the Stern Center for Language and Learning developed Building Blocks for Literacy® (www.buidlingbocksforliteracy.org), an early childhood literacy free online course for parents and caregivers. Building Blocks for Literacy® provides early literacy activities that are developmentally appropriate and inspired in children's play. Comparative studies completed by Podhajski and Nathan (2005) have shown that children whose parents and/or caregivers trained in Building Blocks show significant gains in pre-reading skills compared to those whose caregivers have not been trained in Building Blocks. These activities have not only proven to be very effective in developing early literacy skills, but are also highly engaging and motivating for the little ones as well as for their parents and caregivers.

The Early Literacy Reading Panel (2008) has identified key pre-reading concepts and skills children should develop in pre-school. Since reading is language-based and all about building meaning, not surprisingly, oral language and vocabulary comprehension are the main precursors of the former acquisition of reading skills. Once a young child has learned to listen, speak, and understand his or her language, the next two critical concepts that he or she must acquire is the knowledge of letter names and letter sounds. The knowledge of letter names is a powerful predictor in Kindergarten of reading achievement and so are letter sounds in first grade. This

implies that children must be explicitly taught letter names from early on and universally screened in Kindergarten for this concept to determine those who are at risk of becoming struggling readers. Consequently, the same must be done with letter sounds. Letter-sound correspondence must be taught explicitly and universally screened in first grade.

The report released by the National Reading Panel (2000), identified five essential components of literacy instruction: phonemic awareness, phonics, fluency, vocabulary, and text comprehension. Phonemic awareness and phonics are the foundations of the sound system of the language (phonology) and fluency, vocabulary, and comprehension as the necessary foundation to build meaning (semantics). The development of phonemic awareness is critical in helping young children isolate the individual sounds of the language so that they can eventually map them to the letters that represent them. Once children learn phonics, letter-sound correspondences, they need abundant practice decoding controlled texts in order to develop fluency. The ultimate goal of reading is to comprehend what is read.

All the essential concepts and skills outlined by the reports and studies mentioned above can and must be taught explicitly. Torgesen et al. (2001) from the University of Florida demonstrated that programs which systematically teach young readers phonemic awareness and phonics are more successful in dealing with reading difficulties than other programs. They should and can also be taught in ways that motivate and engage boys and girls. Phonological awareness and phonics, the foundations of the sound system of any alphabetic language, can be taught through fun activities such as songs and games. Keep in mind that boys respond best from well-structured classes that have an obvious purpose and clear goals. They also respond best when learning activities are broken into tasks that are kinesthetic and time-limited and include an element of competition (Wilson 2003). Using technology to develop phonological awareness and phonics is also a great strategy to engage boys and girls equally and to differentiate instruction.

One of the most powerful ways to develop fluency is through guided oral and repeated readings of the same text (Rasinski 1990). This strategy provides abundant practice to build sight-word vocabulary or automatic word recognition. By rereading a short passage of about 100 words and at the independent reading level, the reader steadily acquires automaticity. When the guided oral and repeated readings of the same text are timed, an element of competition can be added. Students love to do repeated readings of a relatively easy passage and observe how their number of words read correctly improves through practice. Their progression can also be graphed so that they can better visualize their self-efficacy and feel motivated to put in the effort to continue to improve. When students see that they can develop fluent, effortless reading, they have confidence in their ability to choose more challenging books and to read independently and more permanently.

Research has demonstrated that one of the best ways to learn new words is through reading (Krashen 1989; Ehri 2005). While being read to or by reading themselves, students will encounter more sophisticated words in the language of books than in a conversation. New vocabulary words can be taught explicitly and should be used frequently in order for students to be able to incorporate them in

their receptive and expressive language repertoire. The use of non-verbal representations such as pictures and symbols, as well as mimic and movement, to represent the meaning of the new words, helps boys and girls learn them in fun and effective ways.

Text comprehension is the ultimate purpose of reading but oftentimes the least taught of all skills. Decoding accurately and fluently does not necessarily result in comprehension. Reading comprehension strategies must also be taught explicitly. Students, and particularly boys, benefit from uncovering the processes good readers follow strategically when reading, to actively process the content they read. Some of the most effective reading comprehension strategies are self-monitoring and using fix-up strategies to correct misunderstanding of text, activation of prior knowledge, generating questions, making predictions and confirming, drawing inferences, taking notes, highlighting, constructing visual representations, comparing and contrasting, paraphrasing, and summarizing. The use of graphic organizers and concept maps helps both boys and girls see the relationships between ideas, concepts, and elements of a story or composition. The power of hands-on experiences is also tightly linked to reading activities (Guthrie et al. 2006). The importance of having students understand what they read cannot be overemphasized. When students are likely to comprehend text, they will more likely enjoy reading and will want to read more.

A read-aloud is a strategy in which an adult models fluent reading to help students increase their own fluency and comprehension. It is a high-impact, low-input strategy often underused component of the kind of instruction that supports readers (Allington and Gabriel in ASCD 2012). Few teachers read aloud to their students daily beyond first grade. When children listen and respond to stories read to them and have the opportunity to interact through extended conversations, oral language is also strengthened. This strategy also allows students to benefit and enjoy texts that are too difficult or above their independent reading level. Reading aloud a variety of texts encourages interactions and increases student motivation when they are encouraged to choose the read-aloud title. Interactive read-alouds can also be highly engaging when props are used to link the text to the real world. Texts for read alouds selected by the teacher can also help expand the range of reading interests of students by introducing new topics and genres that are in line with students' personal interests. Be sure to include traditional as well as popular literature, printed and digital resources.

Literature circles (DaLie 2001; Schlick Noe and Johnson 1999) are a very effective strategy that is tailor-made for the tastes of boys and girls and widely known as a way to help bridge the literacy gender gap. Literature or literary circles are a small group of students interested in reading the same text, book or story. They read a common text and meet regularly to discuss and complete activities about the same text. According to Daniels (2002), key ingredients of literature circles are:

- Choice of reading material
- Temporary groups formed according to students' choice
- Different groups read different books

- Groups meet on a regular, predictable schedule to discuss their reading
- Topics for discussion come from the students themselves
- Group meetings involve open-ended, natural conversations
- Evaluations are conducted by the teacher and by students, who self-evaluate
- A spirit of fun and playfulness is maintained
- When groups are finished, they share with their classmates, and then form new groups based on new reading choices

Some boys may need to first verbalize their ideas before they read or start writing; and this is why literature circles work so well for them. Because information retrieval is relatively easy for boys, spending time verbalizing content in the text may help them phrase their reactions to written text beyond mere retrieval. Idea circles are a bit different, but also allow students to engage in conversations about common interests. In the case of idea circles, students in small groups each read a different text on a common topic. Students can select texts at their independent reading level and in a form of their preference.

## 12.6 Modeling, Guided Practice, and Independent Practice: The State-of-the-Art of Teaching

Back in 1975, Hunter developed *The Five Step Lesson Plan*, a solid instructional model that is still current and has also inspired other models of teaching. Hunter's model describes five stages of the state-of-the-art teaching practice, adaptable to the instruction of almost any skill. It includes five steps: (1) providing context and relevance through the activation of prior knowledge and establishing objectives; (2) modeling; (3) guided practice; (4) independent practice; and (5) generalization.

Later on, and inspired in Hunter's model, Pearson and Gallagher (1983) developed the *Gradual Release of Responsibility Model* and Routman (2003) designed the *Optimal Learning Model*. These three models share a common pattern: modeling by the teacher (I do it), guided practice (We do it), and independent practice (You do it). These three phases are at the heart of effective teaching. By modeling, teachers explicitly teach and, through guided practice with timely feedback, they provide enough practice time for students until they can engage in successful independent practice and achieve mastery. In the end, the ultimate goal of the teacher is to become obsolete so that his or her students will not need him or her anymore as they become independent learners.

The architecture of the workshop model successfully implemented by the Teachers College Reading and Writing Project from Columbia University has three components that contain the three instructional phases described above: (1) mini-lesson; (2) practice time/independent work; and (3) time to share. A hallmark of the workshop model is that of various groupings. Whole-group activities are used for explicit instruction and shared practice. Small groups are used for guided practice and to differentiate instruction. According to Fountas and Pinnell (2001) a balanced

reading and writing program should allow for: (1) modeled reading (interactive read-alouds) and writing; (2) guided practice through interactive, shared, and guided reading and writing; and (3) independent reading and writing practice.

The takeaway of these three phases of instruction common to the models described above is that they are adaptable to the explicit teaching of any reading skill (or any other you can think of), from foundational skills such as phonological awareness and phonics, to fluency development, reading comprehension strategies, and the choice of appropriate books. All the literacy skills we are expected to teach our students should be taught following this instructional approach.

## 12.7 Differentiated Instruction: A Gender-Proof Approach to Teaching Reading

Students, boys or girls, learn in different ways. One-size instruction does not fit all; it would be a disservice to students. Teachers do not have an easy job as they need to face the challenge of juggling what to teach (curriculum), with how to teach (instructional practices), and how to know if students are learning what they are expected to learn in order to guide and differentiate instruction (assessment). Fortunately, the scientific literature in education can inform our practice so that we know what is best when we make those decisions.

A gender-proof approach to reading instruction starts with one simple step: getting to know each boy and each girl, each and every student, as a person and as a learner. Teachers need to know the particular interests and preferences of each student in the class to connect with them and to make content and skills relevant and motivating. While honoring the diversity of learners in the classroom, the teacher can start developing bonds with all students. The information gathered from the process of getting to know students' interests and readiness is essential to the differentiation of instruction.

The next step would then be to differentiate instruction. Differentiated instruction is a framework that provides diverse learning routes to reach the same learning objectives in order to meet the needs of all learners. Although this framework does not equate personalized instruction, it does not equate to one-size instruction either. Students are placed in flexible groupings to match their learning needs. The variety of teaching approaches of this framework addresses gender differences because it is tailored to students' readiness, interests, and learning preferences. Instruction can be differentiated through content, process, and/or product according to individual student characteristics. If teachers adjust to the students' interests and levels of proficiency— the what, the how, and the how they know if students are learning what they are expected to learn— they can meet the learning needs of boys and girls; of all students. For instance, boys tend to respond positively when they are given the opportunity to present their work by using charts, graphs, diagrams, and other visual forms. They are also successful with the visual language of cartoons, graphic novels,

**Table 12.1** A gender-proof approach to reading instruction

| **Reading Instruction** | | | |
|---|---|---|---|
| Survey students interests | | | |
| Differentiate instruction | Content<br>Process<br>Product | | |
| Modeling<br>(explicit instruction) | Phonemic awareness<br>Phonics<br>Fluency<br>Vocabulary<br>Comprehension | | |
| | Book selection | Interest | |
| | | Reading level | |
| Guided practice | | | |


Borrero 2008

video games, movies, and television. Research suggests that boys respond so positively to images because they are more oriented to visual/spatial learning. As a result, visual images "accelerate" boys' learning (Daly 2002). Therefore, teachers should try to provide visual learning tools, materials, and products in their teaching repertoire in order to engage all students, boys and girls, who have this preferred way of acquiring, processing, and demonstrating new learning.

If teachers add student choice at all three levels of differentiation— content, process, and product— they will promote student engagement and motivation. However, in order for student selection to be attractive and satisfying, it must offer a wide variety of options from which to choose from. Let students choose as much as possible what they want to read for pleasure.

A third step would be that of teaching all reading skills following the three phases of the state-of-the-art teaching: modeling, guided practice, and independent practice. Based on the research findings, the core and non-negotiable reading skills that must be explicitly taught are: phonemic awareness, phonics, fluency, vocabulary, comprehension, and how to select reading material based on personal interests and reading ability Table 12.1.

An accomplished teacher uses flexible approaches to tailor instruction to the individual needs of students, while using explicit teaching methods for literacy strategies. Empowered teachers "reclaim their literacy classrooms and the courage to do what is right by first focusing on students and then making the appropriate pedagogical adjustments" (Sarroub and Pernicel 2014, p. 27).

A solid, yet flexible pedagogical approach to reading instruction attuned to student interests and informed by research, will fit the learning needs not only of boys and girls, but of all students. In a multicultural and global society, it becomes an educational challenge for reading teachers to use literacy research-based findings to successfully teach today the readers of tomorrow.

## References


Allington, R. L. (2009). If they don't read much… 30 years later. In E. H. Hiebert (Ed.), *Reading more, reading better* (pp. 30–54). New York: Guilford Publishers.

Allington, R., & Gabriel, R. (2012). Every child, every day. *Educational Leadership, 69*(6), 10–15.

Bandura, A. (1986). The explanatory and predictive scope of self-efficacy theory. *Journal of Clinical and Social Psychology, 4*, 359–373.

Bandura, A. (1996). Social cognitive theory of human development. In T. Husen & T. N. Postlethwaite (Eds.), *International encyclopedia of education* (2nd ed., pp. 5513–5518). Oxford: Pergamon Press.

Borrero, L. (2008). Enseñando a Leer: Teoría, práctica e intervención. Bogotá: Editorial Norma. Building Blocks for Literacy. Retrieved from www.buidlingblocksforliteracy.org

Cavazos-Kottke, S. (2005). Tuned out but turned on: Boys' (dis)engaged reading in and out of school. *Journal of Adolescent and Adult Literacy, 49*(3), 180–184.

Cazden, C. B. (1988). *Classroom discourse: The language of teaching and learning*. Portsmouth: Heinemann.

DaLie, S. O. (2001). Students becoming real readers: Literature circles in high school English classes. In B. O. Ericson (Ed.), *Teaching reading in high school English classes* (pp. 84–100). Urbana: NCTE.

Daly, C. (2002). Literature search on imporving boys' writing *Office for Standards in Education* Retrieved from http://dera.ioe.ac.uk/id/eprint/4781

Daniels, H. (2002). *Literature circles: Voice and choice in book clubs and reading groups*. Portland: Stenhouse.

Dayl, J. P., Spiegel, D. L., McLellan, J., & Brown, V. B. (2002). *Moving forward with literature circles: How to plan, manage, and evaluate literature circles to deepen understanding and foster a love of reading*. Toronto: Scholastic.

Dehaene, S. (2009). *Reading in the brain: The new science of how we read*. New York: Penguin.

Duke, N. K. (2000). 3.6 minutes per day: The scarcity of informational texts in first grade. *Reading Research Quarterly, 35*, 202–224.

Dweck, C. S. (2010). Mindsets and equitable education. *Principal Leadership, 10*(5), 26–29.

Ehri, L. (2005). Learning to read new words: Theory, findings, and issues. *Scientific Studies of Reading, 9*(2), 167–188.

Fountas, I. C., & Pinnell, G. S. (2001). *Guiding readers and writers, grades 3–6: Teaching comprehension, genre, and content literacy*. Portsmouth: Heinemann.

Gambrell, L. B. (2009). Creating opportunities to read more so that students read better. In E. H. Hiebert (Ed.), *Read more, read better* (pp. 251–266). New York: Guilford.

Gambrell, L. B. (2011). Motivation in the school reading curriculum. In T. V. Rasinski (Ed.), *Developing reading instruction that works* (pp. 41–65). Bloomington: Solution Tree.

Gambrell, L., & Marinak, B. (2009). *Reading motivation: What the research says*. Retrieved from http://www.readingrockets.org/article/reading-motivation-what-research-says

Gurian, M. (2001). *Boys and girls learn differently! A guide for teachers and parents*. San Francisco: Jossey-Bass.

Guthrie, J. T., & Humenick, N. M. (2004). Motivating students to read: Evidence for classroom practices that increase motivation and achievement. In P. McCardle & V. Chhabra (Eds.), *The voice of evidence in reading research* (pp. 329–354). Baltimore: Paul Brookes.

Guthrie, J. T., Perencevich, K. C., Wigfield, A., Taboada, A., Humenick, N. M., & Barbosa, P. (2006). Influences of stimulating tasks on reading motivation and comprehension. *Journal of Educational Research, 99*(4), 232–245. Retrieved from http://www.cori.umd.edu/research-publications/2006-guthrie-wigfield-hum.pdf.

Kozhevnikov, M. (2007). Cognitive styles in the context of modern psychology: Toward an integrated framework of cognitive style. *Psychological Bulletin, 133*, 464–481.

Krashen, S. (1989). We acquire vocabulary and spelling by reading: Additional evidence for the input hypothesis. *The Modern Language Journal, 73*(4), 440–464.

Kuhn, M. R., Schwanenflugel, P. J., Morris, R. D., Morrow, L. M., Bradley, B. A., Meisinger, E., Woo, D., & Stahl, S. A. (2006). Teaching children to become fluent and automatic readers. *Journal of Literacy Research, 38*(4), 357–387.

Logan, S., & Johnston, R. (2010). Investigating gender differences in reading. *Educational Review, 62*(2), 175–187.

Margolis, D. (2006). Gender development. In K. M. Thies & J. F. Travers (Eds.), *Handbook of human development for health care professionals*. Sudbury: Jones & Bartlett Publishers.

Marks, G. N. (2008). Accounting for the gender gaps in student performance in reading and mathematics: Evidence from 31 countries. *Oxford Review of Education, 34*(1), 89–109.

Millard, E. (1997). *Differently literate: Boys and girls and the schooling of literacy*. London: Routledge and Farmer.

Moloney, J. (2002). *Ideas for getting boys to read*. Retrieved from http://www.home.gil.com.au/~cbcqld/moloney/books7.htm

National Early Literacy Reading Panel. (2008). Developing early Literacy Retrieved from http://lincs.ed.gov/publications/pdf/NELPReport09.pdf

National Reading Panel. (2000). *Teaching children to read: An evidence-based assessment of the scientific researched literature on reading and its implications for reading instruction*. Retrieved from https://www.nichd.nih.gov/publications/pubs/nrp/documents/report.pdf

National Research Council. (1999). *How people learn: Bridging research and practice*. Washington, DC: The National Academies Press.

Newkirk, T. (2002). *Misreading masculinity: Boys, literacy and popular culture*. Portsmouth: Heinemann.

Pashler, H., McDaniel, M., Rohrer, D., & Bjork, R. (2009). Learning styles: Concepts and evidence. *Psychological Science in the Public Interest, 9*(3), 105–119. https://doi.org/10.1111/j.1539-6053.2009.01038.x.

Pearson, P. D., & Gallagher, M. C. (1983). The instruction of reading comprehension. *Contemporary Educational Psychology, 8*, 317–344.

Pintrich, P. R. (2003). A motivational science perspective on the role of student motivation in learning and teaching contexts. *Journal of Educational Psychology, 95*(4), 667–686.

Podhajski, B., & Nathan, J. (2005). A pathway to reading success: Building blocks for literacy. *New England Reading Association Journal, 41*(2), 24–27.

Progamme for International Student Assessment (PISA). (2000). Retrieved from http://www.oecd.org/edu/school/programmeforinternationalstudentassessmentpisa/33690591.pdf

Progress in International Reading Literacy Study (PIRLS). (2001). Retrieved from http://timss.bc.edu/pirls2001i/pdf/p1_ir_book.pdf

Rasinski, T. (1990). Effects of repeated reading and listening-while-reading on reading fluency. *The Journal of Educational Research, 83*(3), 147–151.

Reis, S. M., McCoach, D. B., Coyne, M., Schreiber, F. J., Eckert, R. D., & Gubbins, E. J. (2007). Using planned enrichment strategies with direct instruction to improve reading fluency, comprehension, and attitude toward reading: An evidence-based study. *Elementary School Journal, 108*(1), 3–24.

Routman, R. (2003). *Reading Essentials*. Portsmouth: Heinemann.

Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist, 55*(1), 68–78.

Sarroub, L. K., & Pernicek, T. (2014). Boys, books, and boredom: A case of three high school boys and their encounters with literacy. *Reading & Writing Quarterly*, 1–29.

Schlick Noe, K. L., & Johnson, N. J. (1999). *Getting started with literature circles*. Norwood: Christopher-Gordon Publishers, Inc..

Scieska, J. *Guys Read*. Retrieved from www.guysread.com

Seifert, T. L. (2004). Understanding student motivation. *Educational Research, 46*(2), 137–149.

Sendak, M. (2004, March). Maurice Sendak: Where the Wild Things Are. [Personal Interview]. In *Now on PBS*. Retrieved from http://www.pbs.org/now/arts/sendak.html

Smith, M., & Wilhelm, J. (2002). *Reading Don't Fix No Chevy: Literacy in the lives of young men*. *Portsmouth*: Heinemann.

Snow, R. E. (1977). Individual differences and instructional theory. *Educational Researcher, 6*, 11–15.

Sternberg, R. J., Grigorenko, E. L., & Zhang, L. (2008). Styles of learning and thinking matter in instruction and assessment. *Perspectives on Psychological Science, 3*, 486–506.

Sylwester, R. (1994). How emotions affect learning. *Educational Leadership, 52*(2), 60–65.

Torgesen, J., Alexander, A., Wagner, R., Rashotte, C., Voeller, K., & Conway, T. (2001). Intensive remedial instruction for children with reading disabilities. *Journal of Learning Disabilities, 34*, 32–58.

Wilson, Gary. (2003). Using the national healthy school standard to raise boys' achievement. Department for Education and Skills. UK. Retrieved from http://www.standards.dfes.gov.uk/genderandachievement/nhss_boys_achievement2.pdf?version=1

Wolf, M. (2007). *Proust and the squid. The story and science of the reading brain*. New York: Harper.

Young, T. A., & Moss, B. (2006). Nonfiction in the classroom library: A literacy necessity. *Childhood Education, 82*, 207–212.

# Conclusion

The acknowledgment of reading motivation as an important factor contributing to reading development has increasingly been addressed by researchers across the globe. Large-scale international assessments such as PISA have examined the ways in which motivation to read relates to reading achievement, particularly among 15-year-olds. Similarly, cross-cultural studies have analyzed changes in reading motivation over time, correlations with other variables such as reading ability, socioeconomic status, gender, and ethnicity. The impact of family literacy practices on children's motivation has also emerged as a topic to consider as communities become more diverse due to immigration and globalization. Finally, the extent to which reading motivation has been a consistent predictor of reading ability is a topic of increasing interest, with theoretical and practical consequences that are relevant across countries.

The current volume encompasses many of these compelling questions, and in doing so, contributes to a wider understanding of the complexities that surround reading motivation. More specifically, these chapters focus on gender differences in motivation to read across the wide spectrum of factors we mentioned earlier: age, ethnicity, family factors, grade level, socioeconomic variables, peer influences, instructional components, and reading achievement. Some chapters also consider the social dimensions of early reading motivation, particularly among struggling readers, while others discuss pedagogical interventions and insights that promote the development of reading motivation equally between boys and girls. The authors also adopt various theoretical perspectives and question some widely accepted warrants about differences in motivation to read between boys and girls. Surely, many studies across the globe provide evidence of significant differences in reading motivation scores and a bias that favors girls over boys. However, these differences are far more complex when they are examined contextually.

In the Introduction, Arango reminds us of the biological and environmental factors that affect the trajectory of motivation, particularly in relation to learning. These factors are further discussed from theoretical and empirical standpoints in the



P. Orellana García, P. Baldwin Lind (eds.), *Reading Achievement and Motivation in Boys and Girls*, Literacy Studies 15,
https://doi.org/10.1007/978-3-319-75948-7

chapters that follow. In this sense, the authors of each individual chapter have also adequately addressed the sociocultural features that interplay with reading motivation in the diverse populations they address. For example, Chiu's discussion of family, peer, and societal aspects in the development of reading motivation (Chapter 3) shows differences in the ways in which boys and girls place themselves in relation to reading and reading-related activities. The notion that greater cultural possession and cultural communication within the family and its bias towards girls' higher interest in reading is an interesting component that may be present in some cultures and not in others (Chiu and Chow 2010). Peer and societal influences on reading motivation shape girls' and boys' reading attitudes, but the ways in which they do so may vary depending on gender roles that are specific to each culture as well. Huang discusses this in Chap. 8 through findings that show that Chinese students place greater value on grades and social recognition in relation to reading motivation, and that these valuing practices were connected to parents' and teachers' expectations of success. The strong influence of a hierarchical testing culture, thus of extrinsic motivation, can therefore be seen as a factor to influence the ways in which Chinese boys and girls value reading.

From an instructional perspective, Borrero (Chapter 12) describes those practices that have more recently been underscored as necessary for the development of avid readers. Drawing from several meta-analyses and compilations, she explains how the different components of literacy instruction can be integrated in ways that promote literacy Motivation of boys and girls. Borrero also explains how recent research contributions from neuroscience and cognitive psychology can facilitate teachers' understandings of how differently boys and girls approach reading, and what can be done in the classroom to help all students acquire a passion for reading. In line with these similar research paradigms, but incorporating sociocultural approaches, the use of inquiry kits demonstrates how the selection of reading material that address both students' interests and needs can foster reading engagement, autonomy, competence, and relatedness, as Sailors, Villarreal, Schutz, Sellers, Wilburn, and Minton suggest in Chapter 11.

In their study, they describe the ways in which developing kits that encompass a big idea, which in turn is related to an issue of social justice, can provide students with a literary framework that both facilitates their comprehension while at the same time engages them in topics that interest them. The underlying expectation is that these students will not only continue to read other texts touching on the same topic, but also that they will become critical readers which will consider the topic through a social justice lens. Such reading perspectives are strongly needed in a world in which there is an overflow of information, oftentimes misleading or blatantly false.

On the other hand, motivation to read has also been affected by changes in the modes of reading that young people engage in, as Brozo demonstrates in Chap. 10, using the case study of Malik, a male adolescent who displays engaged reading and literacy behavior outside of school, specifically through rap recitation. As with online literacy engagement, some teachers are beginning to value and incorporate these practices into their daily instruction, and have shown that alternative texts

such as music, graphic novels, video games, and online reading may be contexts in which students who otherwise struggle with literacy may show their talent and interest. The growing interest in understanding boys' lack of interest in reading has been a consistent topic that researchers have attended to, and in this book, Merisuo-Storm and Aerila discuss it widely in Chapter 9. This topic is significant in Finnish education, where girls outperform boys in reading achievement and show higher levels of motivation to read than boys across the grade levels (Kupari et al. 2012; Mullis et al. 2009). Research in Finland has explored how female and male distinctive personality traits, such as, paying attention to details or even acknowledging readers' strengths and weaknesses, influences reading motivation. From an instructional perspective, being aware of these differences is fundamental, considering that in many countries teachers are predominantly female and may tend to choose reading materials which do not necessarily tap into boys' interests or preferred formats.

Together with instructional practices, theoretical and empirical evidence point to the quality of teacher-student interactions as a factor of great importance to academic and non-cognitive outcomes such as self-regulation and motivation. In the third chapter, Lerkkanen describes how the quality of those interactions may contribute or hinder reading motivation at a very early phase, and how motivation, in turn, affects reading achievement. This includes not only the quality in dialogue between students and teachers, but also choice in reading-related activities, and how differentiating these by gender may be especially beneficial for boys. This research focus is currently growing at unexpected rate and will surely shed light into the reading motivation construct in the next few years. Interaction and book reading go hand in hand; but many teachers lack experiences of dialogic reading or book conversations. Much remains to be done at the level of pre-service and in-service teacher education so that teachers incorporate dialogic reading as an everyday reading practice.

Extensive literature has also analyzed the correlations between reading motivation and reading achievement. Some (e.g. Morgan and Fuchs 2007) point to a bidirectional relationship with moderate correlations between the two constructs, a finding that was also observed by Orellana and Baldwin in Chap. 7 about the development of motivation and reading achievement for Chilean students in grades 3, 4 and 5. One interesting aspect that this chapter indicates is the importance of readers' self-value for boys, given that this factor can explain a significant portion of variance in reading achievement as early as grade 3, and that percentage of variance increases as children progress throughout school. On the other hand, younger struggling readers showed that gender differences in the constructs of reading self-concept, value of reading and literacy out loud can be observed as early as Kindergarten, and that, contrary to what previous studies had shown, reading motivation for students in grades 2 and 3 tends to be higher, as Gambrell, Hubbard, Roberts, Jacques, and Corbett demonstrate in their study of 52 struggling readers who were followed across the school year (Chapter 6).

More recent studies have examined the predictive nature of reading motivation regarding reading achievement. The chapter by Orellana provides a systematic

account of some of the findings where the variance in reading achievement scores can be explained by motivational factors beyond verbal and cognitive ability. There is a wide range in the percent of variance explained by intrinsic motivation, a finding that once again reminds us of the multidimensionality and complexity that motivation involves. What these studies show us, however, is that across very different cultural and linguistic contexts, motivation continues to be a strong predictor of reading achievement, a finding that has important pedagogical implications.

The strong connection between reading achievement and reading motivation has been investigated for over two centuries, but as Phillips, Loerke and Hayward note in the first chapter, there are important misrepresentations about the actual gender differences both in reading ability and motivation. They explain how various factors impact a child's low level of reading and academic motivation, and how these levels impact competence, but also stress that when data is wrongly interpreted or incomplete, certain stereotypes predominate and negatively impact instruction. These biased findings have negative implications for the ways in which teachers approach reading and reading motivation in the classroom.

The chapters in this volume, apart from increasing our understanding about reading motivation in boys and girls, demonstrate that this is a topic that continues to be of interest to researchers, practitioners and the public in general. While we have not discussed the outlooks on reading motivation from a public policy perspective, we also hope that findings about how motivation trajectories unfold across different countries, grade levels, and other factors can bring about changes that favor reading for pleasure and reading interest. Access to books, amount of time spent on actual reading, and freedom to choose books are still critical factors that can make the difference between those who choose to read and those who don't.

## Future Research

Motivation to read has captured the attention of researchers and practitioners across the globe, and the acknowledgment of gender-based differences in its trajectory across the lifespan has also been addressed in current studies. The multidimensionality of the construct, however, makes it possible to conceive of many other research questions in the future. We anticipate that the correlational impact of reading motivation and reading achievement will continue to be a topic of interest, and one that will certainly be further studied. Cross-cultural studies, where motivation to read is examined from perspectives of very different populations will also be a focus of research, particularly at an age in which immigration and culture blending has become a usual practice. For example, how does reading motivation unfold among children coming as immigrants or refugees? How do reading experiences in a second language and foreign culture shape the reading motivation of boys and girls coming into other countries?

While many of the studies in the current volume have used the same or very similar tools to assess motivation and achievement, more research is necessary to design

new instruments that target these variables in new contexts and from different perspectives. This is particularly true in the context of Spanish-speaking countries, where most of the tools used are translations and/or adaptations of questionnaires or surveys created either in Europe or the United States. Similarly, and although considerable motivation studies have addressed engagement in new literacies (Rideout et al. 2005; Vásquez 2003; Xu 2004), there are still interesting questions about the extent to which motivation to read text in unconventional sources impacts reading achievement, or how this kind of motivation varies between boys and girls, children from different age levels, ethnicities, countries, and socioeconomic status. Taken together, these topics (and certainly many others) will surely contribute to our ongoing understanding of the importance of reading motivation in children's lives and the instructional dimensions that it can target so that all children become lifelong readers.

## References

Kupari, J., Sulkunen, S., Vettenranta, J., & Nissinen, K. (2012). *Enemmän iloa oppimiseen. Neljännen luokan oppilaiden lukutaito sekä matematiikan ja luonnontieteiden osaaminen. Kansainväliset PIRLS-ja TIMSS-tutkimukset Suomessa*. University of Jyväskylä, Finnish Institute for Educational Research.

Mullis, I. V. S., Martin, M. O., Kennedy, A. M., Trong, K. L., & Sainsbury, M. (2009). *PIRLS 2011 Assessment Framework*. Amsterdam: International Association for the Evaluation of Educational Achievement (IEA).

Rideout, V. J., Roberts, D. F., & Foehr, U. G. (2005). *Generation M: Media in the lives of 8–18 year-olds*. Menlo Park: Kaiser Family Foundation.

Vásquez, V. (2003). What Pokemon can teach us about learning and literacy. *Language Arts, 81*, 118–125.

Xu, S. (2004). Teachers' reading of students' popular culture texts: The interplay of students' interests, teacher knowledge, and literacy curriculum. In D. Shallert, C. M. Fairbanks, J. Worthy, B. Maloch, & J. V. Hoffman (Eds.), *Yearbook*, 52 417–431. Chicago: National Reading Conference.