Educational Psychology Handbook Series Series Editor: Patricia A. Alexander

International Handbook of Research on Conceptual Change, Second Edition Edited by Stella Vosniadou

The International Guide to Student Achievement Edited by John Hattie and Eric M. Anderman

The International Handbook of Collaborative Learning Edited by Cindy E. Hmelo-Silver, Clark A. Chinn, Carol Chan, and Angela M. O'Donnell

Handbook of Self-Regulation of Learning and Performance Edited by Barry J. Zimmerman and Dale H. Schunk

Handbook of Research on Learning and Instruction Edited by Patricia A. Alexander and Richard E. Mayer

Handbook of Motivation at School Edited by Kathryn Wentzel and Allan Wigfield

International Handbook of Research on Conceptual Change Edited by Stella Vosniadou

Handbook of Moral and Character Education Edited by Larry P. Nucci and Darcia Narvaez

International Handbook of Research on Teachers' Beliefs Edited by Helenrose Fives and Michele Gregoire Gill

# **International Handbook of Research on Teachers' Beliefs**

**Edited by Helenrose Fives and Michele Gregoire Gill** 



First published 2015 by Routledge 711 Third Avenue, New York, NY 10017

and by Routledge

2 Park Square, Milton Park, Abingdon, Oxon, OX14 4RN

Routledge is an imprint of the Taylor & Francis Group, an informa business

© 2015 Taylor & Francis

The right of the editors to be identified as the author of the editorial material, and of the authors for their individual chapters, has been asserted in accordance with sections 77 and 78 of the Copyright, Designs and Patents Act 1988.

All rights reserved. No part of this book may be reprinted or reproduced or utilised in any form or by any electronic, mechanical, or other means, now known or hereafter invented, including photocopying and recording, or in any information storage or retrieval system, without permission in writing from the publishers.

Trademark notice: Product or corporate names may be trademarks or registered trademarks, and are used only for identification and explanation without intent to infringe.

Library of Congress Cataloging-in-Publication Data International handbook of research on teachers' beliefs / [edited] by Helenrose Fives and Michele Gregoire Gill.

pages cm — (Ĕducational psychology handbook)

Includes bibliographical references and index. 1. Teachers—Psychology. 2. Teachers—Attitudes. 3. Teaching. 4. Educational psychology. 5. Education—Research. I. Fives, Helenrose. II. Gill, Michele Gregoire.

LB2840.I57 2014 371.102-dc23 2014008166

ISBN: 978-0-415-53922-7 (hbk) ISBN: 978-0-415-53925-8 (pbk) ISBN: 978-0-203-10843-7 (ebk)

Typeset in Minion by Apex CoVantage, LLC

Printed and bound in the United States of America by Publishers Graphics, LLC on sustainably sourced paper.

#### This book is dedicated to ...

- · Ann Bourke Fives, Rennae Kimbrough, and Patricia A. Alexander, mother, colleague, advisor; the mentors who shaped my development and expanded my beliefs. HF
- Pat Ashton, who advised me, oh so gently, to not seek premature closure to my questions, and whose generous mentoring formed my wild scholar's heart. MGG

# CONTENTS

Acknowled	gments	x
Chapter 1	Introduction MICHELE GREGOIRE GILL AND HELENROSE FIVES	1
Section I	FOUNDATIONS OF TEACHERS' BELIEFS RESEARCH	11
Chapter 2	The Promises, Problems, and Prospects of Research on Teachers' Beliefs	13
Chapter 3	Historical Overview and Theoretical Perspectives of Research on Teachers' Beliefs PATRICIA T. ASHTON	31
Chapter 4	The Development of Teachers' Beliefs BARBARA B. LEVIN	48
Chapter 5	The Relationship Between Teachers' Beliefs and Teachers' Practices MICHELLE M. BUEHL AND JORI S. BECK	66
Section II	STUDYING TEACHERS' BELIEFS	85
Chapter 6	Assessing Teachers' Beliefs: Challenges and Solutions GREGORY SCHRAW AND LORI OLAFSON	87

	Measuring Teachers' Beliefs: For What Purpose?  BOBBY H. HOFFMAN AND KATRIN SEIDEL	106	Section V	TEACHERS' BELIEFS ABOUT KNOWING AND TEACHING WITHIN ACADEMIC DOMAINS	317
Chapter 8	Qualitative Approaches to Studying Teachers' Beliefs LORI OLAFSON, CRISTINA SALINAS GRANDY, AND MARISSA C. OWENS	128	Chapter 18	Personal Epistemologies and Teaching JO LUNN, SUE WALKER, AND JULIA MASCADRI	319
Chapter 9	Methods for Studying Beliefs: Teacher Writing, Scenarios, and Metaphor Analysis ROBERT V. BULLOUGH, JR.	150	Chapter 19	The Individual, the Context, and Practice: A Review of the Research on Teachers' Beliefs Related to Mathematics  DIONNE CROSS FRANCIS, LAUREN RAPACKI, AND AYFER EKER	336
Section 1II	TEACHERS' IDENTITY, MOTIVATION, AND AFFECT	171	Chapter 20	Beliefs About Reading, Text, and Learning From Text LILIANA MAGGIONI, EMILY FOX, AND PATRICIA A. ALEXANDER	353
Chapter 10	The Intersection of Identity, Beliefs, and Politics in Conceptualizing "Teacher Identity"  MICHALINOS ZEMBYLAS AND SHARON M. CHUBBUCK	173 191	Chapter 21	Science Teachers' Beliefs: Perceptions of Efficacy and the Nature of Scientific Knowledge and Knowing JASON A. CHEN, DAVID B. MORRIS, AND NASSER MANSOUR	370
Chapter 11	A Motivational Analysis of Teachers' Beliefs HELEN M. G. WATT AND PAUL W. RICHARDSON	191	Chapter 22	Teachers' Beliefs About Social Studies CARLA L. PECK AND LINDSAY HERRIOT	387
Chapter 12	The Career Development of Preservice and Inservice Teachers: Why Teachers' Self-Efficacy Beliefs Matter KAMAU OGINGA SIWATU AND STEVEN RANDALL CHESNUT	212	Chapter 23	Teachers' Beliefs and Uses of Technology to Support 21st-century Teaching and Learning PEGGY A. ERTMER, ANNE T. OTTENBREIT-LEFTWICH, AND	403
Chapter 13	A "Hot" Mess: Unpacking the Relation Between Teachers' Beliefs and Emotions MICHELE GREGOIRE GILL AND CHRISTINA HARDIN	230	Section VI	TEACHERS' BELIEFS ABOUT LEARNERS	419
Section 1V	CONTEXTS AND TEACHERS' BELIEFS	247	Chapter 24	Preschool Teachers' Ideas about How Children Learn Best: An Examination of Beliefs about the Principles of	
Chapter 14	HELENROSE FIVES, NATALIE LACATENA, AND LAURA GERARD	249	Management of the control of the con	Developmentally Appropriate Practice  AMANDA S. WILCOX-HERZOG, SHARON L. WARD, EUGENE H. WONG,  AND MERIDYTH S. MCLAREN	421
Chapter 15	Teachers' Instructional Beliefs and the Classroom Climate: Connections and Conundrums CHRISTINE RUBIE-DAVIES	<b>2</b> 66	Chapter 25	Teachers' Beliefs About Cultural Diversity: Problems and Possibilities  GENEVA GAY	436
Chapter 16	Teachers' Beliefs About Assessment nicole barnes, helenrose fives, and charity M. dacey	284	Chapter 26	Teachers' Beliefs About English Language Learners	453
Chapter 17	Context Matters: The Influence of Collective Beliefs and Shared Norms  MEGAN TSCHANNEN-MORAN, SERENA J. SALLOUM, AND ROGER D. GODDARD	301	Lat.	TAMARA LUCAS, ANA MARÍA VILLEGAS, AND ADRIAN D. MARTIN	

#### x · Contents

Chapter 27	Teachers' Beliefs About Students with Special Needs and Inclusion  MARY THERESA KIELY, MARY T. BROWNELL, ALEXANDRA  A. LAUTERBACH, AND AMBER E. BENEDICT	475
ist of Contributors		492
ndex		495

# **ACKNOWLEDGMENTS**

First, we both want to send forth our appreciation to Patricia Alexander for giving us this opportunity to gather the leading thinkers and researchers on teachers' beliefs in one volume. Patricia, you gave us permission to play in our favorite playground and be able to share our passionate interest with others. Thank you! You have been such a wonderful, supportive mentor to us both.

We also want to thank all of the authors who agreed to write these chapters. Each chapter was a serious undertaking with varied challenges from fields with enormous amounts of literature to review to fields with little work across scattered topics. The thoughtful scholarship presented in this *Handbook* will serve to guide this body of research. Thank you for lending your voices to this work.

We are particularly indebted to our reviewers, leading experts in the various domains of research on teachers' beliefs, who accepted our invitation to review their assigned chapter with eagerness and a quick turnaround. Your efforts helped our authors with their revisions and provided a much needed "outside" lens for us to consider each chapter as a whole.

Finally, thank you to all researchers on teachers' beliefs, past and present, for laboring away at this messy, complex topic. Without your research efforts, there would not be a Handbook to write.

HR: This work is dedicated to three women who have mentored me throughout my personal and professional life: Ann Bourke Fives, Rennae Kimbrough, and Patricia A. Alexander. Ann Bourke Fives, my mother who I can never thank enough gives me unending support and clear direction. When I considered getting a second masters' degree her response was "No, Lovey, you have one of those, now you get a doctorate." So I did. Rennae Kimbrough, my mentor during my first years of classroom teaching, modeled for me time and again how to teach and reminded me always of the magic that can happen at the chalkboard. Patricia Alexander my advisor and mentor continues to push me farther than I ever intend to go. When I asked for advice on developing a small edited volume her response was "You'll do a *Handbook on Teacher Beliefs*." And so I did. I am grateful to the ongoing support of colleagues, friends, and family, especially Michelle M. Buehl, Emily Klein, Nicole Barnes, and Maribeth Ellen

- van Veen, K., Sleegers, P., & van de Ven, P-H. (2005). One teacher's identity, emotions and commitment to change: A case study into the cognitive-affective processes of a secondary school teacher in the context of reforms. *Teaching and Teacher Education*, 21(8), 917–934. doi:10.1016/j.tate.2005.06.004
- Warin, J., Maddock, M., Pell, A., & Hargreaves, L. (2006). Resolving identity dissonance through reflective and reflexive practice in teaching. *Reflective Practice*, 7(2), 233–245. doi:10.1080/14623940600688670
- Wise, A. (2005). US News and World Report: Editorial Opinion, October 17, 2005. Retrieved January 25, 2006, from www.usnews.com/usnews/letters/articles/051114/14lett\_5.html
- Zembylas, M. (2003a). Emotions and teacher identity: A poststructural perspective. Teachers and Teaching: Theory and Practice, 9(3), 213–238. doi:10.1080/13540600309378
- Zembylas, M. (2003b). Interrogating "teacher identity": Emotion, resistance, and self-formation. *Educational Theory*, 53(1), 107–127. doi:10.1111/j.1741-5446.2003.00107.x
- Zembylas, M. (2005). Discursive practices, genealogies and emotional rules: A poststructuralist view on emotion and identity in teaching. *Teaching and Teacher Education*, 21(8), 935–948. doi:10.1016/j. tate.2005.06.005
- Zembylas, M. (2007). Five pedagogies, a thousand possibilities: Struggling for hope and transformation in education. Rotterdam, The Netherlands: SensePublishers.
- Zembylas, M. (2010). Teacher emotions in the context of educational reforms. In A. Hargreaves, M. Fullan, A. Lieberman, & D. Hopkins (Eds.), *International Handbook of Educational Change* (2nd ed., pp. 219–234), Dordrecht: Springer International.
- Zembylas, M., & Bekerman, Z. (2008). Dilemmas of justice in peace/coexistence education: Affect and the politics of identity. Review of Education, Pedagogy & Cultural Studies, 30(5), 399-419, doi:10.1080/10714410802426558

# 11

# A MOTIVATIONAL ANALYSIS OF TEACHERS' BELIEFS

Helen M. G. Watt and Paul W. Richardson, Monash University, AU

#### **Authors' Note:**

The FIT-Choice project (www.fitchoice.org) is supported by sequential Australian Research Council Discovery Projects DP140100402 (2014–2016; Richardson & Watt), DP0987614 (2009–2012; Watt & Richardson) and DP0666253 (2006–2009; Richardson, Watt, & Eccles). The authors contributed equally to this chapter.

Beliefs (and values) are implicated in all aspects of our lives. Beliefs influence how we attend, interpret, and respond to events and those involved in them, by functioning as "filters," "frames," and "guides" (Fives & Buehl, 2012). From the perspective of contemporary analytical philosophy "belief" refers to a mental attitude that some proposition, statement, idea, or fact is true. Beliefs can be both explicitly available for review and reflection and implicitly held and are related to, but distinct from, knowledge (see Schwitzgebel, 2011). Beliefs are the convictions that we generally hold to be true, often without actual proof or evidence. From among the vast array of things individuals believe at any one point in time, only a limited number can be at the fore and available for reflection, thus, we are not necessarily consciously aware of, nor do we actively reflect upon, many of our beliefs.

Psychologists have taken an interest in beliefs which are seen as "underlying states of expectancy" (Rokeach, 1968, p. 2) that guide attitudes, expectations, and specific values; are instrumental in defining behavior; and are implicated in actions and decision making. Beliefs are assumptions that we make about the world, and our values (i.e., what we deem to be important) relate to those beliefs. For example, an individual could believe that all people are created equal. Such a belief would lead to behaviors and attitudes such as treating everyone with respect regardless of sex, race, religion, age, education, or social status. An opposing belief would likely produce discriminatory behaviors and attitudes, such as racism or sexism. Each of us holds a myriad of beliefs about social and physical reality, organized psychologically

but not necessarily represented in a logical form (Rokeach, 1968). Beliefs vary in their centrality; the more central a belief, the more resistant it is to change. Conceptual change is influenced by values, motivations, emotions, and other "hot" factors (Pintrich, Marx, & Boyle, 1993). Changes in central beliefs result in changes to the belief system including changes to more peripheral beliefs (Rokeach, 1968).

Central teachers' beliefs are those that focus on professional attitudes about education, teaching, and learning; of course, teachers also hold beliefs that are peripherally or unrelated to teaching. Teachers' beliefs can be explicitly or implicitly held. are strongly and positively interrelated (Pohan & Aguilar, 2001), predict teaching practice and pedagogy (Nespor, 1987; Pajares, 1992; Richardson, 1996), relate to teaching preparation and effectiveness (Mewborn, 2002; Nespor, 1987; Ruddell & Kern, 1986), as well as student outcomes (Kunter, Klusmann, Baumert, Richter, Voss, & Hachfeld, 2013). There is a large body of research concerning the powerful effects of teachers' beliefs for their students' achievements in particular, which affect students' perceptions of competence, learning, and achievement. These beliefs, often communicated nonverbally and unintentionally, are perceived and internalized by students, with direct consequences for their self-efficacy, motivation, effort, and achievement (Rosenthal, 2002). Implicit teachers' beliefs also have an effect; in the Netherlands elementary school teachers' implicit prejudices toward ethnic minority students as less intelligent and with poorer school career prospects explained ethnic achievement gaps (van den Bergh, Denessen, Hornstra, Voeten, & Holland, 2010).

Although beliefs and values both constitute fundamental and underlying bases for attitudes and behaviors, values, to this point, have not been comprehensively examined in relation to teachers. Core values have been identified and defined as individuals' conceptions of what is desirable; values influence how people act and how they appraise the events they experience (Schwartz, 1992, 1994). Ten "universal" values have been proposed from empirical research conducted in 20 countries (Schwartz, 1992, 1994): power, achievement, hedonism, stimulation, self-direction, universalism, benevolence, tradition, conformity, and security. These basic values are likely to underpin more domain-specific values, which act in concert with teachers' beliefs, to shape teachers' choices, behaviors, and commitment.

Theories of motivation incorporate domain-specific dual belief and value components. The word "motivation" has its origins in the Latin verb *movere*, meaning "to move," so that motivation is the study of what moves people to action. Theories of motivation were developed to understand what energizes individuals to engage in tasks (Pintrich & Schunk, 2002) and have been developed in relation to students rather than teachers. This situation changed somewhat over the last decade, as motivation researchers have turned their attention also to teachers. In this chapter, we begin with an overview of each of three major motivation theories—expectancy-value, achievement goal, and self-determination theories—which have thus far been reinterpreted in relation to teachers. This reinterpretation has involved the adaptation of constructs and processes initially designed to understand students' motivations. We next review empirical findings pertaining to teachers' motivations and explore cultural differences where these have been identified, paying particular attention to expectancy-value theory within which our work has concentrated. Finally, we raise some methodological issues and conclude with implications for

policy and practice, and suggestions for future research in the field. The relevance and role of beliefs in relation to the study of teacher motivations is highlighted throughout.

# HOW CAN A MOTIVATIONAL LENS ADD TO OUR UNDERSTANDING OF TEACHERS' BELIEFS?

Modern motivation theorists have focused on the interrelationships of beliefs, values, and goals with action to engage in tasks (Eccles & Wigfield, 2002). Self-related beliefs such as self-efficacy, competence, or ability, figure prominently as inherent components in motivational frameworks. Teachers' self-related beliefs have been extensively examined in the teacher self-efficacy literature, which has made important contributions to the study of teachers' beliefs for some time (e.g., Tschannen-Moran & Woolfolk Hoy, 2007; Woolfolk Hoy & Burke-Spero, 2005).

Teacher self-efficacy refers to the degree to which teachers believe they are able or feel efficacious to enact certain professional outcomes—such as deploying effective instructional strategies, classroom management, and engaging students (Tschannen-Moran & Woolfolk Hoy, 2001). In general, empirical studies have demonstrated that higher self-efficacy relates to many positive attitudes and behaviors for teachers and students (see Siwatu & Chesnut, Chapter 12, this volume). These include better or more innovative teaching strategies; greater task persistence, resilience, and well-being; and enhanced student motivation and achievement (see Klassen, Tze, Betts, & Gordon, 2011; Tschannen-Moran, Woolfolk Hoy, & Hoy, 1998). Constructs which are conceptually highly related to self-efficacy (such as success expectancies) are important components within broader motivational theories, which incorporate additional values components and antecedent socialization influences, thereby providing larger frameworks within which to study correlates, antecedents, and consequences of teacher self-beliefs.

In expectancy-value theory (EVT; Eccles [Parsons] et al., 1983; Eccles, 2005, 2009), beliefs about the self, in terms of ability and expectancy of success (closely related to self-efficacy and self-concept), are posited to combine with different kinds of values in predicting a range of achievement behaviors such as participation, effort, and persistence. In self-determination theory (SDT; Deci & Ryan, 2000), a belief in one's own competence is considered a basic need underpinning the progression from controlled to autonomous motivation. While not explicitly a factor within achievement goal theory (AGT), self-beliefs of ability are implicated in the adoption and consequences of performance/ego versus mastery/task goals. Those who adopt performance goals are motivated to demonstrate superior ability relative to others, or to avoid the demonstration of perceived inferior abilities; this is in contrast to mastery goals which individuals adopt when they are motivated to focus on tasks for intrinsic reasons such as interest.

The study of teachers' motivations is not in itself a new question; however, research concerning teachers' motivations has, until recently, not drawn upon the motivation literature in an intensive or systematic way. Theories, constructs, and concepts developed in the student motivation literature are now being fruitfully applied to the study of teacher motivation. Motivation researchers are beginning to turn their attention to other aspects of the complex of motivational factors that

demand greater attention and exploration in relation to teachers. In this endeavor, they have extrapolated from well-established motivation theories to ask, first, what kinds of expectancies, values, and goals are relevant for teachers; second, whether and how we can measure them; and third, whether and how they matter, for teachers, students, and schools.

The burgeoning field of teacher motivation research has begun to demonstrate the importance of teachers' motivations for both themselves and their students. Transposing theoretical concepts to the hitherto neglected domain of teaching has required the adaptation and development of theories which were not originally developed to apply to teachers. We have elsewhere described this movement as a "Zeitgeist" (Watt & Richardson, 2008a), in developing theoretically grounded and psychometrically strong approaches to examine teaching motivations within a range of settings. This emergent teacher motivation literature has originated and developed rather separately from the literature concerning teachers' beliefs. However, it is timely to consider what each has in common and ways in which productive cross-fertilization may occur. The theories which have so far been reinterpreted are expectancy-value theory (EVT), achievement goal theory (AGT), and self-determination theory (SDT).

#### THEORIES OF TEACHER MOTIVATION

EVT, AGT, and SDT have recently been adapted to address pressing questions concerning teachers' motivations for career entry and commitment; efforts and instructional behaviors; and growth and well-being. The choice of theoretical lens has depended upon the outcomes under investigation. We began our empirical work with EVT because it related to the choice of teaching as a career at the initial stage in becoming a teacher. We have examined teaching career motivations from an EVT perspective to identify why individuals choose to pursue teaching as a career, and consequences for their professional engagement, teaching style, and personal wellbeing (Watt & Richardson, 2007, 2008b). AGT has focused on how teachers strive to feel successful in their daily work. From this perspective, Butler (2007) has demonstrated that the classroom is an achievement arena for teachers as well as students. In the adaptation and application of AGT, because teaching is an interpersonal activity (Butler, 2012), the focal outcomes have been dual, concerning both teachers' development and students' learning. Thus, Butler (2012) has introduced and established a new class of achievement goal for teachers: relational goals, which describe teacher strivings to create caring relationships with their students. SDT focuses more generally on growth and human functioning. Through this lens, teachers' controlled versus autonomous motivations have been explored, and consequences for teachers' quality instructional behaviors versus burnout, as well as for the quality of their students' motivations (see Roth, in press, for a review). Teachers' motivations matter, because if teachers are not able to realize their motivations in particular school contexts, it is likely that professional satisfaction and fulfillment will deteriorate.

### Expectancy-Value Theory (EVT)

The expectancy-value model of Eccles and her colleagues (EVT; Eccles, 2005, 2009; Eccles [Parsons] et al., 1983) sets out the importance of individuals' expectancies, values, and background socialization influences in shaping their achievement-related

hoices, over and above their demonstrated skills and abilities. Although developed as a framework to explain senior high school mathematics enrollments (Eccles parsons] et al., 1983), it has since fruitfully been applied to other academic school disciplines (for example, English and Language Arts [Jacobs, Lanza, Osgood, Eccles, & Wigfield, 2002; Watt, 2004]; and sport [Fredricks & Eccles, 2002]), as well as to specific types of careers (e.g., Watt, 2002, 2006; Watt et al., 2012).

Expectancies refer to beliefs about how well an individual will perform on an impending task (Eccles [Parsons] et al., 1983), and are shaped over time by her or his experiences and interpretations of those experiences (see Eccles & Wigfield, 1995). If someone performs a task successfully, she is likely to have her self-beliefs bolstered by the success and expect to succeed at similar tasks in the future; conversely for someone who experiences lack of success or failure. However, ability beliefs describe just one aspect of how individuals relate to tasks. It is also necessary to take into account the value that the individual places on a task. This is influenced by a number of dimensions: does the person enjoy the task? (intrinsic value); is the task instrumental for any of the person's long- or short-term goals? (utility value); does she or he think the task is suited to people like her or him? (attainment value); and, will it be worth the effort required to be successful? (cost value).

EVT conceptualizes and organizes these four classes of values, which relate to how a task meets individual needs (Eccles [Parsons] et al., 1983; Wigfield & Eccles, 1992). Intrinsic value is the enjoyment one derives from carrying out a given task, which has been described as similar to the construct of intrinsic motivation defined by Deci and colleagues (Deci & Ryan, 1985; Deci, Vallerand, Pelletier, & Ryan, 1991) and by Harter (1981), as being concerned with engaging in a task out of interest or enjoyment. Utility value refers to how a task will be useful to an individual in the future, and has some resemblance to extrinsic motivation (Deci & Ryan, 1985; Harter, 1981), in that it taps more instrumental reasons for engaging in a task such as how it fits into a person's future plans. Attainment value relates to the extent to which performance on a particular task provides opportunities for the individual to fulfill a number of identity-related needs. Cost is the negative values component which refers to what the individual has to sacrifice to carry out the task. Cost could include factors such as anxiety, fear of failure or success, and potential loss of selfworth. Task difficulty beliefs are posited to influence achievement-related outcomes via expectancies and values (Eccles [Parsons] et al., 1983, Wigfield & Eccles, 2000), although there has been little research directly addressing those relationships.

EVT and teachers. Previous research into what motivates teachers to enter the profession has resulted in a steady flow of studies from many countries, of which a significant proportion has been conducted in the United States. A seminal review concluded that "altruistic, service-oriented goals and other intrinsic motivations are the source of the primary reasons entering teacher candidates report for why they chose teaching as a career" (Brookhart & Freeman, 1992, p. 46). Since then, an OECD report (2005) reported the most common motivations for teaching to be the desire to work with youth, potential for intellectual fulfillment, and to make a social contribution, based on studies from France, Australia, Belgium (French Community), Canada (Québec), the Netherlands, the Slovak Republic, and the U.K. The desire to work with children and adolescents has been identified as central in many studies (e.g., Fox, 1961; Joseph & Green, 1986; Kyriacou & Coulthard, 2000; Lortie, 1975; Tudhope, 1944; Valentine, 1934), whereas "extrinsic motives" such as

salary, job security, and career status have been more important in different socio-cultural contexts such as Brunei (Yong, 1995), Zimbabwe (Chivore, 1988), Cameroon (Abangma, 1981), the Caribbean (Brown, 1992), Jamaica (Bastick, 1999) and Turkey (Kılınç, Watt, & Richardson, 2012). However, the absence of an agreed theoretical and analytical framework has meant researchers have not always shared understandings of what constitutes intrinsic, altruistic, extrinsic, or other motivations. For example, the desire to work with children has at times been regarded as an intrinsic (e.g., Young, 1995), and at other times an altruistic motivation (e.g., Yong, 1995). Varying conceptualizations and operationalizations have resulted in a lack of definitional precision and overlapping categorizations.

EVT provided a particularly useful and cohesive framework to organize and guide research concerning the motivation to choose a teaching career. Motivations previously identified as influential in the teacher education literature were mapped to constructs in the expectancy-value framework, allowing us to locate previously identified motivations within an integrative and comprehensive model, which suggested additional important motivations. Our FIT-Choice (Factors Influencing Teaching Choice; www.fitchoice.org) program of research began at its outset with the development of the FIT-Choice scale, designed to allow comparative measurements of teacher motivations locally and elsewhere.

The FIT-Choice model taps the "altruistic"-type motivations emphasized in the teacher education literature (e.g., Book & Freeman, 1986; Brown, 1992; Lortie, 1975; Moran, Kilpatrick, Abbott, Dallatt, & McClune, 2001; Serow & Forrest, 1994) as well as more personally utilitarian motivations and intrinsic motivations, together with ability-related beliefs which are the focus of the broader career choice literature (see Lent, Lopez, & Bieschke, 1993). In addition to self-beliefs and values, the FIT-Choice model includes perceptions about the teaching profession (task-beliefs). These reflect perceived demands (heavy workload, emotional demand, hard work) and rewards (salary and social status), the imbalance between which we conceptualize as a "cost." We have provided a review elsewhere (Watt & Richardson, 2008b) of how the FIT-Choice factors map to expectancy-value theory, Social Cognitive Career Theory (SCCT; see Lent Lopez, & Bieschke, 1993), and to key findings within the existing teacher education literature. All parts of the model are proposed to work together to predict choice of a teaching career and professional engagement outcomes.

Specific motivations in the FIT-Choice model (see Figure 11.1) are teaching ability beliefs, intrinsic value, personal utility values (job security, time for family, job transferability), social utility values (shape future of children/adolescents, enhance social equity, make social contribution, work with children/adolescents), social influences (of friends, family, or work colleagues thinking one should become a teacher), positive prior teaching and learning experiences, and the negative motivation of having chosen teaching as a "fallback" career in light of claims in the teacher education literature and the public media wherein entrants may have failed to be accepted into their career of choice or otherwise unable to pursue their first-choice career (see Book, Freeman, & Brousseau, 1985; Haubrich, 1960; Robertson, Keith, & Page, 1983).

Social utility value factors resemble altruism as variously described in the teacher education literature (Book & Freeman, 1986; Brown, 1992; Fox, 1961; Joseph & Green, 1986; Serow, Eaker, & Ciechalski, 1992). Personal utility values tap various

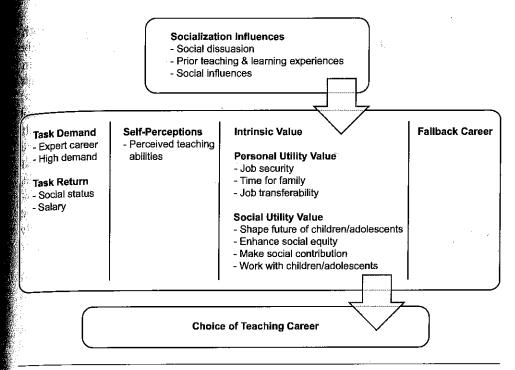


Figure 11.1 FIT-Choice empirically validated theoretical model.

quality of life issues such as having time for family and job security (Bastick, 1999; Jantzen, 1981; Richardson & Watt, 2006; Robertson et al., 1983; Tudhope, 1944; Yong, 1995). Such values resonate with beliefs about what constitutes a balance between work and life, how to achieve that balance, and the type of occupation that provides for a secure future. These personal factors have typically been nominated as extrinsic motivations in prior research, although that label obscures the distinction from factors which we distinguish as socialization influences and task perceptions.

The FIT-Choice measurement platform allows for the identification of which motivations and task beliefs are more and less important for choosing teaching as a career. It also permits comparisons across settings including Australia (Richardson & Watt, 2006), the United States (Lin, Shi, Wang, Zhang, & Hui, 2012; Watt, Richardson, et al., 2012), Norway (Watt, Richardson, et al., 2012), Croatia (Jugović, Marušić, Ivanec, & Vidović, 2012), Germany (König & Rothland, 2012; Watt, Richardson, et al., 2012), China (Lin et al., 2012), and Turkey (Kılınç, Watt, & Richardson, 2012). Fallback career motivations were uniformly low, except in China and Turkey, likely reflecting the availability of work within those job markets. Ability and intrinsic motivations were highly rated among all but the samples from China and Turkey, in which collectivist cultures career choices may be less based on individual interests and abilities; or, more basic needs such as job security may have primacy in a developing nation such as Turkey, on which that sample indeed scored highest. Social utility values were high in general, but notably lowest in the Chinese sample, and in between for the German. Social values may be taken more for granted in collectivistic Chinese culture, and the tracked school system in Germany could mean

future teachers perceive lower agency to achieve social equity outcomes and youth opportunities through educational structures. Personal utility values were strikingly similar and rated moderately across samples, presumably reflecting basic needs in contemporary society, although the Turkish sample rated job security somewhat higher as already mentioned.

In general, future teachers believed teaching to be a highly demanding career (including heavy workload, emotional demand, and hard work), with low rewards in terms of salary and social status. The Chinese and especially the Turkish sample rated the demands of teaching substantially lower, possibly due to the collectivist approach to teacher development and group accountability in the Chinese sample, and the relative demandingness of alternative available work in the developing Turkish context. Perceptions of higher salary in the German setting reflected objective context differences. Values about teaching as a socially responsible and morally worthwhile career starkly contrast with fallback and personally utilitarian values, or beliefs that monetary rewards and status are important career outcomes.

EVT further posits that expectancies and values predict domain-specific achievement behaviors, such as performance, efforts, and persistence. Yet, little is known about the long-term effects of initial teaching motivations. Can they have lasting effects on professional engagement and even on beginning teachers' subsequent teaching styles? Results from our longitudinal study highlight an enduring effect of initial motivations for choosing teaching, which influence professional engagement and teaching styles up to eight years later. We have examined how initial motivations for teaching (incorporating values and beliefs components) influenced professional engagement and career development aspirations (PECDA; Watt & Richardson, 2008b), and self-reported teaching style (TSS; Watt & Richardson, 2007), using longitudinal Australian FIT-Choice data spanning entry to (Time 1) and exit from teacher education (Time 2), up until 8 years of teaching experience (Time 3). Intrinsic and ability (self-belief) motivations to teach at Time 1 predicted Time 3 positive teaching behaviors, as did social utility values through their influence on whether participants planned to remain in the profession at Time 2 (Watt, Richardson, & Devos, 2013). Conversely, fallback career motivations subsequently lowered professional engagement and career development aspirations, and reduced positive teaching behaviors during early career. Social influences, such as being persuaded by family, friends, or others to become a teacher, led to negative teaching practices.

The most adaptive motivations for choosing teaching as a career were thus ability self-beliefs, and wanting to work with youth to be instrumental in shaping their futures and make a social contribution by enhancing social equity (social utility values)—which resonate with teachers' adaptive mastery and relational goals orientations identified by Butler (2012; see section following). Problematic motivations were clearly fallback career and, interestingly, social influences, which predicted teaching negativity (including responding negatively or angrily to students' mistakes, use of sarcasm, or deliberate embarrassment; Richardson & Watt, in press). We interpret the negative consequences from social influence motivations in terms of SDT discussed later in the chapter. Within the SDT perspective, choosing a teaching career based on persuasion from others suggests a "controlled" motivation, rather than a positive "autonomous" motivation. This has implications for teacher

fectuitment efforts; the negative effect of social influences needs to be carefully considered when persuading individuals to enter into the teaching profession.

Our continuing program of research addresses several core issues: (a) why choose the career of being a teacher?; (b) why do people stay in the job, burnout, or leave?; (c) how do motivations intersect with sociocultural factors to impact teachers' professional development and personal well-being?; and, (d) what types of profiles are evident in teachers' career trajectories? Such questions require following the same individuals over an extended period of time to address critical issues in the current climate of teacher shortages and concern regarding teacher quality—with implications for policymakers, employers, and teacher educators. Longitudinal data allow the real, and necessary, opportunity to explore and test how processes unfold over time to produce outcomes.

### Achievement Goal Theory

Achievement goal theory (AGT) originally distinguished a task (or mastery) goal orientation from an ego (or performance) one (Dweck & Elliot, 1983; Nicholls, 1984), Since then, the trichotomous goal framework was proposed (Elliot & Church, 1997; Elliot & Harackiewicz, 1996; see also Nicholls, 1989), which distinguished performance approach from performance avoidance goals, additional to mastery goals. Individuals who hold a performance approach goal are motivated to demonstrate their abilities relative to others, in contrast to those who hold a performance avoidance goal and are motivated to avoid demonstrating their relative lack of ability. A parallel distinction was subsequently proposed for mastery goals in the 2 × 2 achievement goal framework (Elliot, 1999; Elliot & McGregor, 2001; Harackiewicz, Barron, Pintrich, Elliot, & Thrash, 2002; Pintrich, 2000a, 2000b) which introduced a mastery avoidance goal, defined as a focus to avoid misunderstanding, not learning, or not mastering a task. Empirical support for the  $2 \times 2$  goal structure has been found (e.g., Elliot & McGregor, 2001; Bong, 2009; Nien & Duda, 2008; Njouku, 2007; Sideridis, 2008), although "classical" goal theorists have not all embraced the mastery avoidance construct (e.g., see the debate in the Journal of Educational Psychology, 2002). The two approach goal orientations have been found to relate to more positive predictors and outcomes, with mastery approach being the most positive. On the other hand, performance avoidance goals lead to maladaptive outcomes, particularly when self-beliefs of competence are low (Law, Elliot, & Murayama, 2012).

AGT and teachers. In the program of research conducted by Butler and her colleagues, achievement goal theory has been creatively and systematically adapted to the study of teacher motivation, because the school has been found to be an achievement arena not only for students, but also for teachers who strive to feel successful in their work, although teachers differ in their beliefs about what constitutes success, and thus in their goal orientations for teaching. Teachers' goals can similarly be conceptualized in terms of mastery, performance approach, and performance avoidance dimensions. Further, strivings to attain close and caring relationships with students have been identified as a distinct new class of teachers' "relational goals" (Butler, 2012). Within AGT, Butler's work has been significant in tapping previously unidentified teacher motivations, goals, values, and beliefs about the relational work

inherent to being a teacher. This line of research has established important links between teachers' achievement goals, patterns of communication and behavior in the classroom, and students' resultant learning and achievement outcomes (Butler, 2007, in press; Butler & Shibaz, 2008).

Similar to patterns of findings concerning students' achievement goals, teachers' mastery goals were associated with positive outcomes including adaptive coping and engagement, mastery-oriented instruction, and their students' engagement (see Butler, in press). Performance avoidance goals (to avoid the demonstration of poor teaching ability) showed clear negative outcomes including defensive avoidance of help, self-handicapping, burnout, career dissatisfaction, and surface approaches to instruction involving more competitive classroom climates. Patterns for performance approach goals (to prove ability) were less clear-cut. Findings concerning the newly identified class of relational goals showed these teachers provided greater socioemotional support to students (see Butler, 2012; Butler, in press).

### Self-Determination Theory

Self-determination theory (SDT; Deci & Ryan, 1985; Ryan & Deci, 2000) focuses on the social-contextual conditions which facilitate processes of self-motivation and healthy psychological functioning. SDT is founded on the assumption of three basic human psychological needs—for competence, autonomy, and relatedness (Ryan & Deci, 2000). When these three needs are met people experience autonomous motivation and perceive themselves as "origins" of their own behavior, rather than externally controlled "pawns." Within this perspective, extrinsic motivations can become internalized through a process of progressive integration with a person's sense of self. There are five self-regulatory styles: (a) external regulation means no internalization has occurred and motivators are external; (b) introjection is a partial internalization whereby the goal has been taken in but not really accepted as the individual's own; (c) in identified regulation, the person has understood the activity as something important for her or his own long-term goals; (d) the last type of extrinsic motivation is integration, where an identified motivation becomes assimilated with other well-assimilated aspects of the self; (e) finally, intrinsic motivation is also an autonomous motivation. The important differentiation drawn by these theorists is between autonomous (or self-determined) and controlled motivations. Autonomous motivation involves volition and choice, controlled motivation involves an external or internal sense of compulsion (Assor, Roth, & Deci, 2004; Grolnick et al., 1997). It is possible that initially autonomous motivations could turn to controlled motivations; for example, when an initial decision (such as to become a teacher) is autonomous, but then actually doing the work entails a sense of compulsion or external responsibility. A large literature has examined predictors of students' autonomous motivation, and benefits for their engagement and well-being (see Ryan & Deci, 2009).

**SDT and teachers.** Unlike the extensive research that has focused on predictors of students' autonomous motivation (e.g., Reeve, 2002), the research on teachers is quite scarce (see Roth, in press). In studies of teachers, autonomous motivations have been associated with perceived accomplishment, teaching self-efficacy, autonomy supportive teaching practices, and reduced burnout. Based on measures with

students, Roth, Assor, Kanat-Maymon, and Kaplan (2007) in Israel adapted and developed measures of teacher motivations from more controlled to more autonomous, in relation to why teachers carry out specific, common teaching tasks. Examples of controlled teacher motivations include to avoid parent complaints or feelings of guilt; autonomous motivations include to let children feel teachers care about them, or to be in touch with children and adolescents (Roth et al., 2007).

Consistent with theoretical predictions, teachers' feelings of accomplishment increased as teachers moved along the continuum from external to intrinsic motivations; the reverse was true for negatively increasing correlations with burnout (Roth et al., 2007). Findings for burnout were replicated by Fernet, Senécal, Guay, Marsh, and Dowson (2008) in Francophone Canada, who also examined relationships of teacher motivations with self-efficacy. Intrinsic and identified motivations were positively, and interjected and external motivations negatively, associated with teaching self-efficacy measured by the French-Canadian version (Fernet, Senécal, & Guay, 2005) of the Classroom and School Context Teacher Self-Efficacy Scale (Friedman, 2003). The scale encompassed items related to instruction, discipline, and consideration of students, which were analyzed as one composite factor. Autonomous teacher motivation has additionally been found to associate with autonomy supportive teaching practices that furnish choice and relevance to students (Fernet, Guay, Senécal, & Austin, 2012; Pelletier, Seguin-Levesque, & Legault, 2002; Roth et al., 2007; Taylor & Ntoumanis, 2007; Taylor, Ntoumanis, & Standage, 2008).

# APPROACHES TO THE STUDY OF TEACHER, MOTIVATIONS AND BELIEFS

Our review of teacher motivation research from the theoretical perspectives of EVT, AGT, and SDT has highlighted the theoretical adaptations involved in the study of teachers, the role of self- (and task-) beliefs within each, and empirical findings so far. In this section, we discuss etic and emic approaches to the study of teacher motivations and beliefs, with particular reference to extensive cross-cultural, and intensive situated studies. Human beings develop throughout their life-span and are engaged in specific cultural contexts where they have shared assumptions about how the world is, and how all aspects of daily life are conducted. In the formation of motivations, beliefs, and values, we might expect that different macro-level cultural factors, ensconced in social and cultural practices, behaviors, and events, together with the micro-level interactions between individuals and groups, dynamically interact. Thus, motivations, beliefs, and values do not exist independently of the individuals who hold them in specific social and cultural contexts.

# Etic Approaches

Etic approaches describe phenomena in terms that can be applied across cultures. Teacher motivation, beliefs, and values are located within macro- and micro-level social and cultural systems constituted by political policies, organizational systems, policies, and practices at the level of the district and school. Since teachers operate within these environments located in particular sociocultural settings, it is likely that these settings will form and fashion teachers' motivations, beliefs, and values.

With the development of common measurement platforms from which to approach the study of teacher motivations across studies and settings, it becomes possible to directly compare and contrast how motivations differ across samples and contexts. As discussed earlier in this chapter, we already know that the relative importance of individuals' various motivations for choosing teaching as a career differs according to broad sociocultural factors.

Disturbingly, evidence is accumulating to demonstrate that present school accountability reforms in the West serve to undermine teachers' adaptive mastery and relational goals and promote maladaptive ability and work avoidance goals (Butler, in press), also, to reduce teachers' autonomous motivations and promote controlled motivations (Roth, in press). Kieschke and Schaarschmidt (2008) conducted an extensive study on teachers' professional commitment and health in Germany and expressed concern about the consequences of regimentation and external interference in teaching; they recommended that: (a) teachers need to be given more autonomy in their work to allow for self-determined professional goals; (b) excessive demands from overwhelming educational tasks that are completed alone need to be minimized; and (c) teachers need clearer separation of life at school and leisure time; school tasks often undertaken in the evening and on weekends allow little opportunity for emotional distancing, recovery, and regeneration. In a teaching-fortesting culture such as China (see Ho & Hau, in press for a review), it is possible that findings would differ, if there is a match between individuals' and cultural beliefs and values concerning the nature of the teachers' role and student learning.

Theories for understanding achievement behavior in the West have focused on the individual as the unit of analysis, based on the concept of an independent and autonomous self. In contrast, the interdependent self (Markus & Kitayama, 1991) is more prominent in the East. Consequently, teacher motivation involves seeking consensus about what works for the common goal, or so-called "middle way" (Gao, 2010; Tsui & Wong, 2009), and a reflection of the *yin-yang* philosophy in which opposites are considered interdependent and mutually supportive (Hue, 2008). In their review, Ho and Hau (in press) wonder what role individual differences in teachers' expectancies, values, goals, and control beliefs play in the more collectivist-oriented cultural context. For example, Klassen et al. (2008) found that Singaporean teachers' collective self-efficacy beliefs strongly mediated the effects of student socioeconomic status on perceived school climate; likely due to teachers' belief in the interactive and collective influence of the staff as a whole. In contrast, Canadian teachers in an individualistic culture may maintain a focus on individual professional development rather than the agency of the group.

Ho and Hau (in press) explained that the existence of cultural factors should not lead us to conclude that theorization and research can only be carried out within its culture-specific meaning (an emic perspective), and that comparisons which involve same constructs and measures across settings are also important to identify where differences may occur (an etic perspective). However, at the same time, they caution against transporting Western constructs directly into other contexts without first examining the meaning and underlying assumptions of the constructs (see Karabenick, et al., 2007). Although a substantial literature has accumulated concerning Chinese students' learning motivations (see Hau & Ho, 2010, for a review), similar systematic investigation of teacher motivation is in its infancy.

### Emic Approaches

situated approaches (e.g., Nolen, Ward, & Horn, 2011; Turner & Patrick, 2008) involve interpretative analyses of interview and observation data. Such studies do not seek generalization as their goal, but undertake more nuanced examination of a phenomenon or setting. Situated studies offer the possibility to understand how teacher motivations develop, become salient, change, and are expressed in dynamic interaction with particular student, classroom, and school factors. The conduct of both nuanced situated studies alongside large-scale longitudinal studies seems to us to be critical to understand the what and the why of teacher motivations, how they develop and are expressed, and why they matter.

In the research concerning teacher motivation there has been a greater concentration thus far on psychological variables, and less attention to contextual or situated aspects (with the exception of the situated approaches). Sensitive, sound, robust theories and measurements are additionally needed at the level of contextual effects, to determine in comparative studies how different workplace environments nurture or constrain teachers' motivations. Developments in multilevel modeling allow us to examine individuals within settings, to begin to parse the impacts of person and school characteristics on teacher motivations, engagement, and emotions (e.g., Klusmann, Kunter, Trautwein, Lüdtke, & Baumert, 2008). In this endeavor, methods beyond self-report surveys are required. Experience sampling is one method that can provide insight into teachers' beliefs, motivations, and experiences during the act of teaching, enabling moment-to-moment information that may not be accessible if sought after the event. Such a method allows us to examine the exercise *in situ* of teachers' beliefs, values, and motivations in classrooms (e.g., Carson, Weiss, & Templin, 2010; Keller, Frenzel, Goetz, Pekrun, & Hensley, 2013; Malmberg, 2010).

Both etic and emic approaches will be important to progress the burgeoning body of work concerning teachers' beliefs and motivations, incorporating methodologies additional to self-report, such as observations and experience sampling. Motivational lenses offer the opportunity to examine relationships within and consequent upon the broader systems within which teacher self-beliefs reside. It is only now that we are beginning to understand some of the core values, beliefs, and expectancies that attract people into teacher education, as well as those that influence their daily practice and students' outcomes, and sustain teachers as healthy and effective professionals, within particular sociocultural and contextual settings. Researchers need to continue to address the motivations and psychological supports that beginning teachers require to sustain their "fitness to practice." It is intriguing that only recently have teachers' own outcomes been considered important in their own right, and not only as they impact students.

On the other hand, what can the burgeoning literature on teachers' beliefs offer the developing field of teacher motivation? The teachers' beliefs literature has encompassed a diversity of beliefs including, but not limited to, self-beliefs. Other beliefs, particularly task-related and sociocultural beliefs, hold promise to enrich the study of teacher motivation. Indeed, these other kinds of beliefs are important yet under-studied factors in EVT; task beliefs are also directly implicated in mastery goals within AGT. The two bodies of literature—teacher motivation and teachers' beliefs—have developed rather independently and yet, each has much to offer the

other. It is timely to marry them in a way that goes beyond simple addition or a pastiche, and systematically fosters theoretical cross-fertilization and hybridization.

#### **OUTLOOK AND FUTURE DIRECTIONS**

There is an urgent need for reliable, large-scale, long-term, cross-cultural data, incorporating extensive quantitative measures alongside targeted rich qualitative components, to examine the what and the why of teacher motivations and development. In this pursuit, we may not necessarily wish to keep measuring the same motivational factors over time. We are presently lacking a coherent developmental theoretical approach to the study of teachers' motivations throughout their career. It may be that different theories will be important to understand different developmental stages. For example, EVT may be most relevant to the choice of teaching as a career, AGT for teachers' daily practices, and SDT to the promotion of generally autonomous motivated behavior.

There will very likely not be a single stage model we can come up with to describe the development of teachers' motivations and beliefs. We already know that, in many Western and European countries, up to 50% of teachers leave within their first five years (Chang, 2009; Henke, Chen, & Geis, 2000; Ingersoll, 2003; Johnson & Birkeland, 2003; MCEETYA, 2003; OECD, 2005; Preston, 2000), established in the United States to be due to a "revolving door" through which large numbers of teachers depart teaching long before retirement (e.g., Ingersoll, 2001, 2012; Ingersoll & Strong, 2011). By contrast, where teachers are accorded better pay and conditions such as in Scotland, Ireland, Sweden, Finland, and Iceland, there are fewer recruitment and retention problems than in countries where the pay and conditions of the profession are lower. It is important to examine the motivations that sustain people in the profession versus those that deter or push people away, which may not simply be opposite sides of the same coin.

We expect that different kinds of school contexts will afford the realization or not of teachers' motivations, which, if left unfulfilled, are likely to create a double-edged sword that could lead to burnout and disappointment. For example, teachers who are motivated to work with youth and enhance social equity, may (and do) find themselves frustrated and dispirited when their time is taken up by administrative and accountability work which takes them away from what they regard as their core responsibilities. This has begun to create a disjuncture between why teachers want to teach, and the work they are required to spend their time doing. People who became teachers because they want to work with children and adolescents become less satisfied with their work, if it means they have little time to engage in relational work on a daily basis. In this way, the same motivations can be a driving force for good or ill, dependent on the degree of match between a teacher and her or his teaching environment.

In determining which beliefs and motivations are adaptive versus maladaptive, it is essential to understand what outcomes are predicted by different beliefs and motivations, within what contexts. Deciding which outcomes ought to serve as outcome criteria in this endeavor will be a non-trivial matter. It is also necessary to determine antecedents to, and stability versus malleability of, beliefs and motivations that are identified as positive or negative, before implications for policy and practice can be clarified. For instance, stable and non-malleable factors may be best considered at

selection into teacher education, whereas changeable or malleable factors ought to be addressed during teacher education and early career induction. To adopt identified positive beliefs or motivations as selection criteria into teacher education at this point, in our view, would be premature and insufficiently informed.

It is further necessary for teacher education to equip beginning teachers with coping strategies to effectively deal with everyday problems and the capability to self-manage stressful events to support and protect themselves psychologically and emotionally (Kieschke & Schaarschmidt, 2008). Such goals are given considerable attention in the preparation of clinical and school psychologists, and ought to be incorporated as a specific course within initial teacher education programs and early career professional development. Although mentoring programs for beginning teachers have been introduced in many countries, the success of the programs has been negatively impacted by inappropriate mentor matches, and low levels of appropriate mentor and mentee interaction and support (see Kardos & Johnson, 2010; Wang & Odell, 2002). They have also not been designed to specifically address the psychological and emotional dimensions of teachers' work.

#### REFERENCES

- Abangma, M.A. (1981). A study of primary teachers' attitudes towards ruralisation of school curriculum in English speaking Cameroon. London: University of London.
- Assor, A., Roth, G., & Deci, E.L. (2004). The emotional costs of perceived parents' conditional regard: A self-determination theory analysis. *Journal of Personality*, 72, 47–89. doi:10.1111/j.0022-3506.2004.00256.x
- Bastick, T. (1999). A three factor model to resolve the controversies of why trainees are motivated to choose the teaching profession. Biennial Cross Campus Conference in Education, St Augustine, Trinidad.
- Book, C.L., & Freeman, D.J. (1986). Différences in entry characteristics of elementary and secondary teacher candidates. *Journal of Teacher Education*, 37(2), 47–51. doi:10.1177/002248718603700209
- Book, C., Freeman, D., & Brousseau, B. (1985). Comparing academic backgrounds and career aspirations of education and non-education majors. *Journal of Teacher Education, (May/June)*, 27–30, doi:10.1177/002248718503600306
- Bong, M. (2009). Age-related differences in achievement goal differentiation. Journal of Educational Psychology, 101, 879–896. doi:10.1037/a0015945
- Brookhart, S.M., & Freeman, D.J. (1992). Characteristics of entering teacher candidates. Review of Educational Research, 62, 37–60. doi:10.3102/00346543062001037
- Brown, M.M. (1992). Caribbean first-year teachers' reasons for choosing teaching as a career. *Journal of Education for Teaching*, 18(2), 185–195. doi:10.1080/0260747920180207
- Butler, R. (2007). Teachers' achievement goal orientations and associations with teachers' help seeking: Examination of a novel approach to teacher motivation. *Journal of Educational Psychology*, 99, 241–252. doi:10.1037/0022-0663.99.2.241
- Butler, R. (2012). Striving to connect: Extending an achievement goal approach to teacher motivation to include relational goals for teaching. *Journal of Educational Psychology*, 104, 726–742. doi:10.1037/a0028613
- Butler, R. (in press). What teachers want to achieve and why it matters: An achievement goal approach to teacher motivation. In P.W. Richardson, S.A. Karabenick, & H.M.G. Watt (Eds.), *Teacher motivation: Theory and practice* (Ch. 2). New York, NY: Routledge.
- Butler, R., & Shibaz, L. (2008). Achievement goals for teaching as predictors of students' perceptions of instructional practices and students' help seeking and cheating. *Learning and Instruction*, 18, 453–467. doi:10.1016/j.learninstruc.2008.06.004
- Carson, R.L., Weiss, H.M., & Templin, T.J. (2010). Ecological momentary assessment: A research method for studying the daily lives of teachers. *International Journal of Research and Method in Education*, 33(2), 165–182. doi:10.1080/1743727X.2010.484548
- Chang, M.-L. (2009). An appraisal perspective of teacher burnout: Examining the emotional work of teachers. Educational Psychology Review, 21, 193–218. doi:10.1007/s10648-009-9106-y

- Chivore, B.S.R. (1988). Factors determining the attractiveness of the teaching profession in Zimbabwe. *International Review of Education*, 34(1), 59–78. doi:10.1007/BF00601918
- Deci, E.L., & Ryan, R.M. (1985). Intrinsic motivation and self-determination in human behavior. New York, NY: Plenum Press.
- 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, 227–268. doi:10.1207/S15327965PLI1104\_01
- Deci, E.L., Vallerand, R.J., Pelletier, L.C., & Ryan, R.M. (1991). Motivation and education: The self-determination perspective. *Educational Psychologist*, 26, 325-346. doi:10.1080/00461520.1991.9653137
- Dweck, C.S., & Elliott, S. (1983). Achievement motivation. In P. Mussen (Ed.), Handbook of child psychology: Socialization, personality, and social development (Vol. 4, pp. 643–691). New York, NY: Wiley.
- Eccles, J.S. (2005). Subjective task value and the Eccles et al. model of achievement-related choices. In A.J. Elliot & C.S. Dweck (Eds.), *Handbook of competence and motivation* (pp. 105–121). New York, NY: Guilford Press.
- Eccles, J. (2009). Who am I and what am I going to do with my life? Personal and collective identities as motivators of action. Educational Psychologist, 44(2), 78–89. doi:10.1080/00461520902832368
- 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, 215–225. doi:10.1177/0146167295213003
- Eccles, J.S., & Wigfield, A. (2002). Motivational beliefs, values and goals. *Annual Review of Psychology*, 53, 109–132, doi:10.1146/annurev.psych.53.100901.135153
- Eccles (Parsons), J., Adler, T.F., Futterman, R., Goff, S.B., Kaczala, C.M., Meece, J.L., & Midgley, C. (1983).
  Expectancies, values, and academic behaviors. In J.T. Spence (Ed.), Achievement and achievement motivation (pp. 75–146). San Francisco, CA, WH Freeman.
- Elliot, A. J., & Church, M. A. (1997). A hierarchical model of approach and avoidance achievement motivation. *Journal of Personality and Social Psychology*, 72, 218–232. doi:10.1037/0022-3514.72.1.218
- Elliot, A.J., & Harackiewicz, J.M. (1996). Approach and avoidance achievement goals and intrinsic motivation: A mediational analysis. *Journal of Personality and Social Psychology*, 70, 461–475. doi:10.1037/ 0022-3514.70.3.461
- Elliot, A. J. (1999). Approach and avoidance motivation and achievement goals. Educational Psychologist, 34, 169–189, doi: 10.1207/s15326985ep3403\_3
- Elliot, A. J., & McGregor, H. A. (2001). A 2 × 2 achievement goal framework. *Journal of Personality and Social Psychology*; 80, 501–519. doi:10.1037/0022-3514.80.3.501
- Elliot, A.J., McGregor, H.A., & Gable, S. (1999). Achievement goals, study strategies, and exam performance: A mediational analysis. *Journal of Educational Psychology*, 91, 549-563. doi:10.1037/0022-0663.91.3.549
- Fernet, C., Guay, F., Senècal, C., & Austin, S. (2012). Predicting intraindividual changes in teacher burnout: The role of perceived school environment and motivational factors. *Teaching and Teacher Education*, 28, 514–525. doi:10.1016/j.tate.2011.11.013
- Fernet, C., Senécal, C., & Guay, F. (2005, March). La perception d'efficacité des enseignants: validation canadiennefrançaise du "Classroom and School Context Teacher Self-Efficacy Scale" [Teacher self-efficacy: The French Canadian validation of the "Classroom and School Context Teacher Self-Efficacy Scale"]. Paper presented at the 27th Congrès de la Société Québécoise pour la Recherche en Psychologie (SQRP), Québec, Canada.
- Fernet, C., Senécal, C., Guay, F., Marsh, H., & Dowson, M. (2008). The work tasks motivation scale for teachers (WTMST). *Journal of Career Assessment, 16,* 256–279. doi:10.1177/1069072707305764
- Fives, H., & Buehl, M. M. (2012). Spring cleaning for the "messy" construct of teachers' beliefs: What are they? Which have been examined? What can they tell us? In K.R. Harris, S. Graham, & T. Urdan (Eds.), APA Educational Psychology Handbook: Volume 2. Individual differences and cultural and contextual factors (pp. 471–499). Washington, DC: American Psychological Association. doi:10.1037/13274-019
- Fox, R.B. (1961). Factors influencing the career choice of prospective teachers. *Journal of Teacher Education*, 7(4), 427-432. doi:10.1177/002248716101200410
- 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. doi:10.1037/0012-1649.38.4.519
- Friedman, I.A. (2003). Self-efficacy and burnout in teaching: The importance of interpersonal-relations efficacy. Social Psychology of Education, 6, 191–215. doi:10.1023/A:1024723124467

- Gao, X. (2010). To be or not to be: Shifting motivations in Chinese secondary school English teachers' career narratives. *Teacher Development*, 14, 321–334. doi:10.1080/13664530.2010.504013
- Grolnick, W.S., Deci, E.L., & Ryan, R.M. (1997). Internalization within the family: The self-determination theory perspective. In J.E. Grusec & L. Kuczynski (Eds.), Parenting and children's internalization of values:

  A handbook of contemporary theory (pp. 135–161). New York, NY: Wiley.
- Harackiewicz, J.M., Barron, K.E., Pintrich, P.R., Elliot, A.J., & Thrash, T.M. (2002). Revision of achievement goal theory: Necessary and illuminating. *Journal of Educational Psychology*, 94, 638–645. doi:10.1037/0022-0663.94.3.638
- Harter, S. (1981). A new self-report scale of intrinsic versus extrinsic orientation in the classroom: Motivational and informational components. Developmental Psychology, 17, 300–312. doi:10.1037/0012-1649.17.3.300
- Hau, K. T., & Ho, I. T. (2010). Chinese students' motivation and achievement. In M. H. Bond (Ed.), The Oxford handbook of Chinese psychology (pp. 187–204). New York, NY: Oxford University Press.
- Haubrich, V.F. (1960). The motives of prospective teachers. Journal of Teacher Education, 11(3), 381-386. doi:10.1177/002248716001100315
- Henke, R.R., Chen, X., & Geis, S. (2000). Progress through the teacher pipeline: 1992–1993 college graduates and elementary/secondary school teaching as of 1997. Washington, DC: National Center for Educational Statistics.
- Ho, I. T., & Hau, K.-T. (in press). East meets West: Motivation in the Chinese context. In P.W. Richardson, S.A. Karabenick, & H.M.G. Watt (Eds.), Teacher motivation: Theory and practice (Ch. 9). New York, NY: Routledge.
- Hue, M.T. (2008). The influence of Chinese culture on Hong Kong classrooms. In M.T. Hue & W.S. Li (Eds.), Classroom management: Creating a positive learning environment (pp. 21-44). Hong Kong University Press.
- Ingersoll, R.M. (2001). Teacher turnover and teacher shortages: An organizational analysis. American Educational Research Journal, 38, 499-534. doi:10.3102/00028312038003499
- Ingersoll, R.M. (2003). Is there really a teacher shortage? Seattle: University of Washington, Center for the Study of Teaching and Policy.
- Ingersoll, R. (2012). Beginning teacher induction: What the data tell us. Phi Delta Kappan, 93(8), 47-51.
- Ingersoll, R. M., & Strong, M. (2011). The impact of induction and mentoring programs for beginning teachers. Review of Educational Research, §1, 201–233. doi:10.3102/0034654311403323
- 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. doi:10.1111/1467-8624.00421
- Jantzen, J.M. (1981). Why college students choose to teach: A longitudinal study. Journal of Teacher Education, 32(2), 45–59. doi:10.1177/002248718103200210
- Johnson, S.M., & Birkeland, S.E. (2003). Pursuing a "Sense of success": New teachers explain their career decisions. American Educational Research Journal, 40, 581-617. doi:10.3102/00028312040003581
- Joseph, P.B., & Green, N. (1986). Perspectives on reasons for becoming teachers. *Journal of Teacher Education*, 37(6), 28–33. doi:10.1177/002248718603700605
- Jugović, I., Marušić, I., Ivanec, T.P., & Vidović, V.V. (2012). Motivation and personality of preservice teachers in Croatia. Asia-Pacific Journal of Teacher Education, 40(3), 271–287. doi:10.1080/1359866X.2012.700044
- Karabenick, S.A., Woolley, M.E., Friedel, J.M., Ammon, B.V., Blazevski, J., Bonney, C.R., . . . Kelly, K.L. (2007). Cognitive processing of self-report items in educational research: Do they think what we mean? Educational Psychologist, 42, 139–151. doi:10.1080/00461520701416231
- Kardos, S., & Johnson, S. (2010). New teachers' experiences of mentoring: The good, the bad, and the inequity. *Journal of Educational Change*, 11(1), 23-44. doi:10.1007/s10833-008-9096-4
- Keller, M. M., Frenzel, A. C., Goetz, T., Pekrnn, R., & Hensley, L. (2013, in press). Exploring teacher emotions: Causes, effects, and correlates. In P.W. Richardson, S.A. Karabenick, & H.M.G. Watt (Eds.), Teacher motivation: Theory and practice (Ch. 5). New York, NY: Routledge.
- Kieschke, U., & Schaarschmidt, U. (2008). Professional commitment and health among teachers in Germany: A typological approach. *Learning and Instruction*, 18, 429–437. doi:10.1016/j.learninstruc.2008.06.005
- Kılınç, A., Watt, H.M.G., & Richardson, P.W. (2012). Factors influencing teaching choice in Turkey. Asia-Pacific Journal of Teacher Education, 40(3), 199-226. doi:10.1080/1359866X.2012.700048
- Klassen, R. M., Cliong, W. H., Huan, V. S., Wong, I., Kates, A., & Hannok, W. (2008). Motivation beliefs of secondary school teachers in Canada and Singapore: A mixed methods study. *Teaching and Teacher Edu*cation, 24, 1919–1934. doi:10.1016/j.tate.2008.01.005

- Klassen, R., Tze, V., Betts, S., & Gordon, K. (2011). Teacher efficacy research 1998–2009: Signs of progress or unfulfilled promise? *Educational Psychology Review*, 23(1), 21–43. doi:10.1007/s10648-010-9141-8
- Klusmann, U., Kunter, M., Trautwein, U., Lüdtke, O., & Baumert, J. (2008). Engagement and emotional exhaustion in teachers: Does the school context make a difference? *Applied Psychology: An International Review, 57*, 127–151. doi:10.1111/j.1464-0597.2008.00358.x
- König, J., & Rothland, M. (2012). Motivations for choosing teaching as a career: Effects on general pedagogical knowledge during initial teacher education. *Asia-Pacific Journal of Teacher Education*, 40(3), 289–315, doi:10.1080/1359866X.2012.700045
- Kunter, M., Klusmann, U., Baumert, J., Richter, D., Voss, T., & Hachfeld, A. (2013). Professional competence of teachers: Effects on instructional quality and student development. *Journal of Educational Psychology*, 105, 805–820. doi:10.1037/a0032583
- Kyriacou, C., & Coulthard, M. (2000). Undergraduates' views of teaching as a career choice. Journal of Education for Teaching, 26(2), 117–126. doi:10.1080/02607470050127036
- Law, W., Elliot, A.J., & Murayama, K. (2012). Perceived competence moderates the relation between performance-approach and performance-avoidance goals. *Journal of Educational Psychology*, 104, 806–819. doi:10.1037/a0027179
- Lent, R. W., Lopez, F. G., & Bieschke, K. J. (1993). Predicting mathematics-related choice and success behaviors: Test of an expanded social cognitive model. *Journal of Vocational Behavior*, 42(2), 223–236. doi:10.1006/jvbe.1993.1016
- Lin, E., Shi, Q., Wang, J., Zhang, S., & Hui, L. (2012). Initial motivations for teaching: Comparison between preservice teachers in the United States and China. Asia-Pacific Journal of Teacher Education, 40(3), 227–248. doi:10.1080/1359866X.2012.700047
- Lortie, D. C. (1975). School-teacher: A sociological study. Chicago, IL: University of Chicago Press.
- Malmberg, L.-E. (2010, November). Within-teacher stability and variability: An unexplored dimension of teachers' self-efficacy. Motivation & Learning/Teachers' Work & Lives SIGs Joint Invited Keynote, presented at the Australian Association of Research in Education annual conference, Melbourne, November 28–December 2.
- Markus, H. R., & Kitayama, S. (1991). Culture and the self: Implications for cognition, emotion, and motivation. *Psychological Review*, 98, 224–253. doi:10.1037/0033-295X.98.2.224
- Mewborn, D.S. (2002). Examining mathematics teachers' beliefs through multiple lenses. Paper presented at the Annual Meeting of American Educational Research Association. New Orleans, LA.
- Ministerial Council on Employment, Education, Training and Youth Affairs (MCEETYA) (2003). Teacher Quality and Educational Leadership Taskforce (2003). Demand and Supply of Primary and Secondary Teachers in Australia. Canberra: Department of Education, Science and Training.
- Moran, A., Kilpatrick, R., Abbott, L., Dallatt, J., & McClune, B. (2001). Training to teach: Motivating factors and implications for recruitment. *Evaluation and Research in Education*, 15(1), 17–32. doi:10.1080/09500790108666980
- Nespor, J. (1987). The role of beliefs in the practice of teaching. *Journal of Curriculum Studies*, 19, 317–328. doi:10.1080/0022027870190403
- Nicholls, J.G. (1984). Achievement motivation: Conceptions of ability, subjective experience, task choice, and performance. *Psychological Review*, 91(3), 328–346. doi:10.1037/0033-295X.91.3.328
- Nicholls, J.G. (1989). The competitive ethos and democratic education. Cambridge, MA: Harvard University Press.
- Nien, C.-L., & Duda, J.L. (2008). Antecedents and consequences of approach and avoidance achievement goals: A test of gender invariance. Psychology of Sport and Exercise, 9, 352–372. doi:10.1016/j. psychsport.2007.05.002
- Njonku, H.U. (2007). The interrelations of goals, knowledge monitoring, strategic help seeking, and achievement among high school students of different cultures. *Dissertation Abstracts International Section A:* Humanities and Social Sciences, 68(4-A),1328.
- Nolen, S. B., Ward, C. J., & Horn, I. S. (2011). Motivation, engagement, and identity: Opening a conversation. In D. McInerney, R. Walker, & G.A.D. Liem (Eds.), Sociocultural theories of learning and motivation: Looking back, looking forward (pp. 109–135). Greenwich, CT: Information Age Press.
- Nolen, S., Ward, C.J., & Horn, I.S. (in press). Changing practice(s): A situative account of teachers' motivations to learn. In P.W. Richardson, S.A. Karabenick, & H.M.G. Watt (Eds.), *Teacher motivation: Theory and practice* (Ch. 11). New York, NY: Routledge.

- Organisation for Economic Co-operation and Development (OECD). (2005). Attracting, developing and retaining effective teachers. Paris: OECD.
- Pajares, M.F. (1992). Teachers' beliefs and educational research: Cleaning up a messy construct. Review of Educational Research, 62(3), 307-332. doi:10.3102/00346543062003307
- Pelletier, L.G., Seguin-Levesque, C., & Legault, L. (2002). Pressure from above and pressure from below as determinants of teachers' motivation and teaching behaviors. *Journal of Educational Psychology*, 94, 186-196. doi:10.1037/0022-0663.94.1.186
- Pintrich, P.R. (2000a). The role of goal orientation in self-regulated learning. In M. Boekaerts, P. Pintrich, & M. Zeidner (Eds.), *Handbook of self-regulation* (pp. 451–502). San Diego, CA: Academic.
- Pintrich, P.R. (2000b). Multiple goals, multiple pathways: The role of goal orientation in learning and achievement. *Journal of Educational Psychology*, 92, 544–555. doi:10.1037/0022-0663.92.3.544
- Pintrich, P.R., Marx, R.W., & Boyle, R.A. (1993). Beyond cold conceptual change: The role of motivational beliefs and classroom contextual factors in the process of conceptual change. *Review of Educational Research*, 63, 167–199. doi:10.3102/00346543063002167
- Pintrich, P.R., & Schunk, D.H. (2002). Motivation in education: Theory, research, and applications (2nd ed.). Upper Saddle River, NJ: Prentice Hall.
- Pohan, C.A., & Aguilar, T.E. (2001). Measuring educators' beliefs about diversity in personal and professional contexts. *American Educational Research Journal*, 38, 159–182. doi:10.3102/00028312038001159
- Preston, B. (2000). Teacher supply and demand to 2005 projections and context. Australian Council of Deans of Education. Canberra: ACDE.
- Reeve, J. (2002). Self-determination theory applied to educational settings. In E.L. Deci & R.M. Ryan (Eds.), Handbook of self-determination research (pp. 183–203). Rochester, NY: University of Rochester Press.
- Richardson, P.W., & Watt, H.M.G. (2006). Who chooses teaching and why? Profiling characteristics and motivations across three Australian universities. *Asia-Pacific Journal of Teacher Education*, 34(1), 27–56. doi:10.1080/13598660500480290
- Richardson, P.W., & Watt, H.M.G. (in press). Why people choose teaching as a career: An expectancy-value approach to understanding teacher motivations. In P.W. Richardson, S.A. Karabenick, & H.M.G. Watt (Eds.), *Teacher motivation: Theory and practice* (Ch. 1). New York, NY: Routledge.
- Richardson, V. (1996). The role of attitudes and beliefs in learning to teach. In J. Sikula (Ed.), *Handbook of research on teacher education* (2nd ed., pp. 102–119). New York, NY: Macmillan.
- Robertson, S., Keith, T., & Page, E. (1983). Now who aspires to teach? *Educational Researcher*, 12(6), 13-21. doi:10.3102/0013189X012006013
- Rokeach, M. (1968). Beliefs, attitudes, and values: A theory of organization and change. San Francisco, CA: Iossev-Bass.
- Rosenthal, R. (2002). Covert communication in classrooms, clinics, courtrooms, and cubicles. *American Psychologist*, 57, 839–849. doi:10.1037/0003-066X.57.11.839
- Roth, G. (in press). Antecedents and outcomes of teachers' autonomous motivation: A self-determination theory analysis. In P.W. Richardson, S.A. Karabenick, & H.M.G. Watt (Eds.), *Teacher motivation: Theory and practice* (Ch. 3). New York, NY: Routledge.
- Roth, G., Assor, A., Kanat-Maymon, Y., & Kaplan, H. (2007). Autonomous motivation for teaching: How self-determined teaching may lead to self-determined learning. *Journal of Educational Psychology*, 99, 761-774. doi:10.1037/0022-0663.99.4.761
- Ruddell, R.B., & Kern, R.B. (1986). The development of belief systems and teaching effectiveness of iufluential teachers. In M.P. Douglas (Ed.), *Reading: The quest for meaning* (pp. 133–150). Claremont, CA: Claremont Graduate School Yearbook.
- 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. doi:10.1037/0003-066X.55.1.68
- 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, NY: Routledge.
- Schwartz, S. H. (1992). Universals in the content and structure of values: Theoretical advances and empirical tests in 20 countries. Advances in Experimental Social Psychology, 25, 1–65.
- Schwartz, S.H. (1994). Beyond individualism/collectivism: New cultural dimensions of values. In U. Kim, H.C. Triandis, C. Kagitcibasi, S-C. Choi, & G. Yoon (Eds.), Individualism and collectivism: Theory, method and applications (pp. 85–119). Newbury Park, CA: Sage.

- Schwitzgebel, E. (2011). "Belief." The Stanford Encyclopedia of Philosophy (Winter 2011 Edition), E.N. Zalta (Ed.). Retrieved from http://plato.stanford.edu/archives/win2011/entries/belief/
- Serow, R. C., Eaker, D., & Ciechalski, J. (1992). Calling, service, and legitimacy: Professional orientations and career commitment among prospective teachers. *Journal of Research and Development in Education*, 25, 136–141.
- Serow, R.C., & Forrest, K.D. (1994). Motives and circumstances: Occupational-change experiences of prospective late-entry teachers. *Teaching and Teacher Education*, 10(5), 555–563. doi:10.1016/0742-051X(94) 90006-X
- Sideridis, G.D. (2008). The regulation of affect, anxiety and stressful arousal from adopting mastery avoidance goal orientations. Stress and Health, 24, 55-69. doi:10.1002/smi.1160
- Siwatu, K.O. (2007). Preservice teachers' culturally responsive teaching self-efficacy and outcome expectancy beliefs. *Teaching and Teacher Education*, 23(7), 1086–1101. doi:10.1016/j.tate.2006.07.011
- Siwatu, K.O. (2009). Designing self-efficacy building interventions in the preparation of culturally responsive teachers. In R. Milner (Ed.), *Diversity and education: Teachers, teaching, and teacher education* (pp. 119–131). Springfield, IL: Charles C. Thomas Publishers.
- Siwatu, K.O. (2011). Preservice teachers' culturally responsive teaching self-efficacy forming experiences: A mixed methods study. *Journal of Educational Research*, 104, 360–369. doi:10.1080/00220671.2010.487081
- Taylor, I., & Ntoumanis, N. (2007). Teacher motivational strategies and student self-determination in physical education. *Journal of Educational Psychology*, 99, 747–760. doi:10.1037/0022-0663.99.4.747
- Taylor, I., Ntoumanis, N., & Standage, M. (2008). A self-determination theory approach to understanding antecedents of teachers' motivational strategies in physical education. *Journal of Sport and Exercise Psy*chology, 30, 75–94.
- Tschannen-Moran, M., & Hoy, A.W. (2007). The differential antecedents of self-efficacy beliefs of novice and experienced teachers. *Teaching and Teacher Education*, 23, 944–956. doi:10.1016/j.tate.2006.05.003
- Tschannen-Moran, M., & Woolfolk Hoy, A. (2001). Teacher efficacy: Capturing an elusive construct. *Teaching and Teacher Education*, 17, 783–805. doi:10.1016/S0742-051X(01)00036-1
- Tschannen-Moran, M., Woolfolk Hoy, A., & Hoy, W.K. (1998). Teacher efficacy: Its meaning and measure. Review of Educational Research, 68, 202–248. doi:10.3102/00346543068002202
- Tsui, A.B.M., & Wong, J.L.N. (2009). In search of a third space: Teacher development in mainland China. In C.K.K. Chan & N. Rao (Eds.), Revisiting the Chinese learner: Changing contexts, changing education. (pp. 281–311). Hong Kong: Comparative Education Research Centre, The University of Hong Kong.
- Tudhope, W.B. (1944). Motives for choice of the teaching profession by training college students. British Journal of Educational Psychology, 14, 129–141. doi:10.1111/j.2044-8279.1944.tb01550.x
- Turner, J. C., & Patrick, H. (2008). How does motivation develop and why does it change? Reframing motivation research. *Educational Psychologist*, 43, 1–13. doi:10.1080/00461520802178441
- Valentine, C.W. (1934). An enquiry as to reasons for the choice of the teaching profession by university students. British Journal of Educational Psychology, 4, 237–259. doi:10.1111/j.2044-8279.1934.tb02955.x
- van den Bergh, L., Denessen, E., Hornstra, L., Voeten, M., & Holland, R.W. (2010). The implicit prejudiced attitudes of teachers: Relations to teacher expectations and the ethnic achievement gap. *American Educational Research Journal*, 47, 497–527. doi:10.3102/0002831209353594
- Wang, J., & Odell, S.J. (2002). Mentored learning to teach according to standards-based reform: A critical review. *Review of Educational Research*, 72, 481–546. doi:10.3102/00346543072003481
- Watt, H.M.G. (2002). Gendered achievement-related choices and behaviours in mathematics and English: The nature and influence of self-, task- and value perceptions. Unpublished PhD, University of Sydney.
- Watt, H.M. G. (2004). Development of adolescents' self perceptions, values and task perceptions according to gender and domain in 7th through 11th grade Australian students. *Child Development*, 75, 1556–1574. doi:10.1111/j.1467-8624.2004.00757.x
- Watt, H.M.G. (2006). The role of motivation in gendered educational and occupational trajectories related to math. In H.M.G. Watt & J.S. Eccles (Eds.). Understanding women's choice of mathematics and science related careers: Longitudinal studies from four countries. *Educational Research and Evaluation*, 12(4), 305–322. doi:10.1080/13803610600765562
- Watt, H.M.G., & Richardson, P.W. (2007). Motivational factors influencing teaching as a career choice: Development and validation of the FIT-Choice Scale. *Journal of Experimental Education*, 75, 167–202. doi:10.3200/JEXE.75.3.167-202
- Watt, H.M.G., & Richardson, P.W. (2008a). Guest editorial: Motivation for teaching. Learning and Instruction, 18, 405–407. doi:10.1016/j.learninstruc.2008.06.009

- Watt, H.M.G., & Richardson, P.W. (2008b). Motivations, perceptions, and aspirations concerning teaching as a career for different types of beginning teachers. *Learning and Instruction*, 18, 408–428. doi:10.1016/j. learninstruc.2008.06.002
- Watt, H.M.G., Richardson, P.W., & Devos, C. (2013, August). Initial teaching motivations, professional engagement, and subsequent teaching behaviours. Paper presented at the biennial EARLI Conference, Munich, August 27–31.
- Watt, H.M.G., Richardson, P.W., Klusmann, U., Kunter, M., Beyer, B., Trautwein, U., & Baumert, J. (2012). Motivations for choosing teaching as a career: An international comparison using the FIT-Choice scale. *Teaching and Teacher Education*, 28, 791–805. doi:10.1016/j.tate.2012.03.003
- Watt, H.M. G., Shapka, J.D., Morris, Z.A., Durik, A.M., Keating, D.P., & Eccles, J.S. (2012). Gendered motivational processes affecting high school mathematics participation, educational aspirations, and career plans: A comparison of samples from Australia, Canada, and the United States. *Developmental Psychology*, 48, 1594–1611. doi:10.1037/a0027838
- Wigfield, A., & Eccles, J. S. (1992). The development of achievement task values: A theoretical analysis. *Developmental Review*, 12, 265–310. doi:10.1016/0273-2297(92)90011-P
- Wigfield, A., & Eccles, J.S. (2000). Expectancy-value theory of achievement motivation. Contemporary Educational Psychology, 25, 68–81. doi:10.1006/ceps.1999.1015
- Woolfolk Hoy, A., & Burke-Spero, R. (2005). Changes in teacher efficacy during the early years of teaching: A comparison of four measures. Teaching and Teacher Education, 21, 343–356. doi:10.1016/j. tate.2005.01.007
- Yong, B.C.S. (1995). Teacher trainees' motives for entering into a teaching career in Brunei Darussalam. Teaching and Teacher Education, 11, 275–280. doi:10.1016/0742-051X(94)00023-Y
- Young, B.J. (1995). Career plans and work perceptions of preservice teachers. Teaching and Teacher Education, 11, 281–292. doi:10.1016/0742-051X(94)00024-Z