Kulturelle Überzeugungen und professionelle Kompetenz von Lehrenden im Umgang mit kultureller Heterogenität im Klassenzimmer

Inauguraldissertation
zur Erlangung des Grades eines
Doktors der Philosophie

am Fachbereich Erziehungswissenschaft und Psychologie
der Freien Universität Berlin

vorgelegt von
Dipl.-Psych. Axinja Hachfeld

Berlin, 2013
Erstgutachterin: Prof. Dr. Bettina Hannover
Zweitgutachter: Prof. Dr. Jürgen Baumert
Inhalt

1 ZUSAMMENFASSUNG ........................................................................................................... 5

2 EINLEITUNG UND THEORETISCHER RAHMEN DER ARBEIT .................................................. 11
  2.1 EINLEITUNG .................................................................................................................. 11
  2.2 AUSGANGSPUNKT: GENAUIGKEIT DER LEISTUNGSEINSCHÄTZUNGEN IN KULTURELL HETEROGENEN KLASSEN ................................................................. 14
  2.3 UMgang MIT KULTURELLER HETEROGENITÄT IM FOKUS DER WISSENSCHAFT .......................................................... 16
  2.4 PROFESSIONELLE KOMPETENZ IM KONTEXT KULTURELLER HETEROGENITÄT ......................... 22
  2.5 ERFASSUNG DER KULTURELLEN ÜBERZEUGUNGEN VON LEHRENden .................. 33
  2.6 KULTURelle ÜBERZEUGUNGEN ALS TEILASPEKT PROFESSIONeller KOMPETENZ .......................................................... 35
  2.7 MULTIKULTURelle ÜBERZEUGUNGEN UND MIGRATIONSHINTERGRUND ................. 43
  2.8 ZIEL UND FRAGEstellUNGEN DER VORLIEgenden ARBEIT ........................................ 49
  2.9 LITERATUR ...................................................................................................................... 57

3 DOES IMMIGRATION BACKGROUND MATTER? HOW TEACHERS’ PREDICTIONS OF STUDENTS’ PERFORMANCE RELATE TO STUDENT BACKGROUND ........................................ 71
  3.1 INTRODUCTION ............................................................................................................. 71
  3.2 METHOD ......................................................................................................................... 76
  3.3 MEASURES ...................................................................................................................... 77
  3.4 ANALYSES ...................................................................................................................... 80
  3.5 RESULTS ......................................................................................................................... 82
  3.6 RESULTS FROM MULTILEvel MODELS ........................................................................ 85
  3.7 DISCUSSION ................................................................................................................... 88
  3.8 REFERENCES .................................................................................................................. 94
  APPENDIX A1: EQUATIONS FOR MODELS 1 AND 2 ............................................................ 99

4 ASSESSING TEACHERS’ MULTICULTURAL AND EgalITARIAN BELIEFS: THE TEACHER CULTURAL BELIEFS SCALE ................................................................. 103
  4.1 INTRODUCTION .......................................................................................................... 103
  4.2 TEACHERS’ BELIEFS .................................................................................................... 103
  4.3 THE TEACHER CULTURAL BELIEFS SCALE .................................................................. 107
  4.4 AIMS AND RESEARCH QUESTIONS ............................................................................. 108
  4.5 STUDY 1 ....................................................................................................................... 110
  4.6 STUDY 2 ....................................................................................................................... 116
  4.7 METHOD ....................................................................................................................... 117
  4.8 ANALYSES AND RESULTS ......................................................................................... 120
  4.9 DISCUSSION ................................................................................................................ 122
  4.10 GENERAL DISCUSSION ............................................................................................ 123
  4.11 REFERENCES .............................................................................................................. 127
1 Zusammenfassung


Welche Bedeutung die Überzeugungen von Lehrenden in Bezug auf kulturelle Heterogenität im Klassenzimmer haben, ist die übergeordnete Fragestellung der vorliegenden Arbeit. Um diese zu beantworten, wurde in insgesamt vier empirischen Teilstudien untersucht, wie Lehrkräfte und Lehramtsanwärter(innen) mit kultureller Heterogenität umgehen (z.B. in ihren Leistungseinschätzungen), in welchem Zusammenhang die kulturellen Überzeugungen zur professionellen Kompetenz für das Unterrichten von Schüler(inne)n mit Migrationshintergrund stehen und welche Konsequenzen sich aus unterschiedlichen Überzeugungen ergeben können. Dabei baut die Arbeit zum einen auf sozialpsychologischer Forschung zu Intergruppen-Beziehungen auf (Hahn, Park & Judd, 2010), zum anderen bettet sie die kulturellen Überzeugungen in das Modell professioneller Kompetenz ein, welches all jene Merkmale beschreibt, über die Lehrkräfte für eine erfolgreiche Berufsbewältigung verfügen müssen (vgl. Baumert & Kunter, 2006; Kunter et al., 2011).

Im Mittelpunkt der ersten Teilstudie stand die Genauigkeit der Leistungseinschätzungen von Mathematiklehrkräften für Schüler(innen) ohne und mit Migrationshintergrund und die Frage, wie diese durch den sprachlichen Hintergrund der Jugendlichen und die sprachliche Komplexität der Aufgabe beeinflusst wird. Die Leistungseinschätzungen spielen eine zentrale Rolle für Unterrichtsplanung, Notengebung, Überweisung in Förderkurse u.v.m. und somit für das Lernen und die Schullaufbahn aller Schüler(innen). Aufgrund ihrer Bedeutung für die gesamte Schullaufbahn ist es wichtig, dass die Leistungsbeurteilungen bei Schüler(inne)n mit


Im Rahmen der vierten Teilstudie wurde der Frage nachgegangen, ob die multikulturellen Überzeugungen Unterschiede zwischen Lehramtsanwärter(inne)n mit und ohne Migrationshintergrund in der professionellen Kompetenz für das Unterrichten in kulturell heterogenen Klassen erklären können. Die deskriptiven Ergebnisse bekräftigten zunächst die Annahme, dass Lehramtsanwärter(innen) über mehr Selbstwirksamkeitserwartungen und Enthusiasmus für das Unterrichten von Schüler(inne)n mit Migrationshintergrund verfügten. Unter Berücksichtigung der multikulturellen Überzeugungen nahm der Zusammenhang jedoch signifikant ab, was für eine vermittelnde Rolle von multikulturellen Überzeugungen spricht. In Bezug auf die Vorurteile über die schulbezogene Lernmotivation von Schüler(inne)n mit Migrationshintergrund zeigten sich zunächst keine Unterschiede zwischen Lehramtsanwärter(inne)n mit und ohne Migrationshintergrund, aber auch hier nahm der Zusammenhang unter Berücksichtigung der multikulturellen Überzeugungen signifikant ab. Dieser Befund deutet ebenfalls auf einen vermittelnden Effekt von multikulturellen Überzeugungen auf
Vorurteile hin: Je mehr die Lehramtsanwärter(innen) multikulturellen Überzeugungen zustimmten, desto mehr lehnten sie Vorurteile über die schulbezogene Lernmotivation von Schüler(inne)n mit Migrationshintergrund ab. Insgesamt sprechen die Ergebnisse der Teilstudie 4 dafür, dass der Zusammenhang von Migrationshintergrund und verschiedensten Teilaspekten professioneller Kompetenz im weiteren Sinne über die multikulturellen Überzeugungen vermittelt wird.

Einleitung und theoretischer Rahmen der Arbeit
2 Einleitung und theoretischer Rahmen der Arbeit

2.1 Einleitung


Vor diesem Hintergrund haben wissenschaftliche und journalistische Arbeiten die Frage aufgeworfen, welche Rolle den Lehrkräften in Zeiten wachsender kultureller Heterogenität zukommt und welche Kompetenzen sie und andere pädagogische Fachkräfte mitbringen müssen. In der medialen Öffentlichkeit wird die Herausforderung jedoch oft verkürzt und zugespielt dargestellt, und Lehrende\(^3\) sehen sich immer wieder den Vorwürfen ausgesetzt, diskriminierend und interkulturell unsensibel zu sein. So titelt beispielsweise die Süddeutsche

\(^1\) Schüler(innen), die selbst eingewandert sind, durchschnittliches Alter bei der Einwanderung: 5,7 Jahre (Stanat & Christensen, 2006).

\(^2\) Schüler(innen), die selbst in Deutschland geboren sind, deren Eltern aber aus einem anderen Land als Deutschland kommen (Stanat & Christensen, 2006).

\(^3\) Der Begriff „Lehrende“ bezieht sich im Folgenden immer auf Personen, die in Schulklassen unterrichten und Unterricht eigenverantwortlich vor- und nachbereiten, und schließt somit Lehramtsanwärter(innen) in der Praxisphase sowie voll ausgebildete Lehrkräfte ein.

Gemäß dieser Sicht scheitern Schüler(innen) mit Migrationshintergrund, weil ihre Lehrer(innen) sie nicht ausreichend fördern, nicht auf migrationsspezifische Besonderheiten eingehen können oder wollen oder sie gar benachteiligen. Diese pauschalen Vorwürfe werden der Komplexität der Situation jedoch nicht gerecht: empirische Untersuchungen zeichnen längst kein so klares Bild der Benachteiligung (vgl. u. a. auch Diefenbach, 2002; Gresch, 2012; Kristen, 2006; Schofield, 2006; Stanat & Christensen, 2006), wie es zum Teil im medialen Diskurs vorherrscht. Um die Situation von Schüler(innen) mit Migrationshintergrund im deutschen Schulsystem zu verbessern, ist es daher unabdingbar, über den Diskriminierungsvorwurf an die Lehrenden hinaus zu gehen und zugrundeliegende Prozesse für mögliche Benachteiligung genauer zu untersuchen.

Vor diesem Hintergrund untersucht die vorliegende Arbeit in vier Teilstudien den Umgang von Lehrenden mit kultureller Heterogenität. Der Schwerpunkt der Arbeit liegt dabei auf den Überzeugungen von Lehrenden über kulturelle Heterogenität. Die übergeordnete Fragestellung lässt sich wie folgt umreißen:

Welche Bedeutung haben die Überzeugungen von Lehrenden in Bezug auf kulturelle Heterogenität im Klassenzimmer?

In dieser Fragestellung enthalten sind die Teilfragen, wie Lehrkräfte mit kultureller Heterogenität umgehen (z. B. in ihren Leistungseinschätzungen), in welchem Zusammenhang die kulturellen Überzeugungen zur professionellen Kompetenz für das Unterrichten von Schüler(inne)n mit Migrationshintergrund stehen und welche Konsequenzen sich aus unterschiedlichen Überzeugungen ergeben können.

Im Zusammenhang mit der Bildungsbeteiligung von Schüler(inne)n mit Migrationshintergrund gut untersucht ist bisher der domänenspezifische Ansatz der diagnostischen Kompetenz. Dieser Ansatz bildet auch den Ausgangspunkt im ersten Teil der vorliegenden Arbeit. Der erste Teil der Arbeit widmet sich der Frage, ob sich negative Migrationseffekte bei der Genauigkeit der Leistungsbeurteilungen von Lehrenden finden oder ob sich diese durch weitere sprachliche Faktoren erklären lassen. Dabei wurde getestet, ob Lehrkräfte die Leistungen von Schüler(inne)n ohne Migrationshintergrund akkurater vorhersagen als die von deutschsprachigen Schüler(inne)n mit Migrationshintergrund oder zweisprachig aufwachsenden Schüler(inne)n, und ob sie in ihren Leistungseinschätzungen auch die sprachlichen


---


5 Eine ausführlichere Begriffsbestimmung der kulturellen Überzeugungen findet sich in Kapitel 2.4.2.
nachgegangen, ob die multikulturellen Überzeugungen als Mediatoren zwischen Teilaspekten professioneller Kompetenz im weiteren Sinne und eigenen Migrationserfahrungen fungieren.

Theoretisch bettet die Arbeit die kulturellen Überzeugungen in das Modell der professionellen Kompetenz von Lehrenden ein, das im Rahmen des COACTIV-Forschungsprogramms an Mathematiklehrkräften entwickelt und überprüft wurde (vgl. Kunter et al., 2011). Dafür wurde das Modell an die Arbeit in kulturell heterogenen Kontexten angepasst und die untersuchten Kompetenzaspekte spezifisch für diesen Kontext erfasst. Das angepasste Modell wird in Kapitel 2.4 näher beschrieben. Die im Rahmen der Arbeit entstandenen Teilstudien konzentrieren sich auf einzelne Aspekte des Modells, sie erfüllen jedoch nicht den Anspruch, die dargestellten Zusammenhänge in ihrer Gesamtheit zu prüfen.


2.2 Ausgangspunkt: Genauigkeit der Leistungseinschätzungen in kulturell heterogenen Klassen


Hervorzuheben ist, dass die Genauigkeit der Leistungseinschätzungen eine große Rolle für die Unterrichtsplanung, das Unterrichten und das Lernen der Schüler(innen) spielt (Dusek &

---


2.3 Umgang mit kultureller Heterogenität im Fokus der Wissenschaft

Wie gehen Lehrende mit kultureller Heterogenität um? Der Stellenwert dieser Frage für die Wissenschaft und die Praxis ergibt sich unmittelbar aus der besonderen Bedeutung, die Lehrende im Allgemeinen für die (Leistungs-)Entwicklung ihrer Schüler(innen) haben. Zum einen verbringen die Schüler(innen) den Großteil ihrer Zeit an der Schule in der Gegenwart und in Interaktion mit ihren Lehrkräften (Ferguson, 2003). Zum anderen entscheiden Lehrkräfte über das Lehrangebot, dass sie ihren Schüler(innen) machen. In diesem Sinne „rücken Lehrkräfte als Experten für die Unterrichtsgestaltung mehr und mehr in den Mittelpunkt“ der Unterrichtsforschung (Dubberke, Kunter, McElvany, Brunner & Baumert,

Im Kontext kultureller Heterogenität wird mancherorts auch auf die nötigen „interkulturellen“ Kompetenzen verwiesen, ein Konzept, das häufig beschrieben, selten jedoch klar definiert ist. Um die Schwierigkeiten zu verdeutlichen, die sich aus der Definition interkultureller Kompetenz ergeben, soll im Folgenden kurz auf den Begriff „interkulturelle Kompetenz“ eingegangen werden. Dabei wird verdeutlicht, dass es sich bei diesem Konzept nicht um Kompetenz im engeren Sinne, sondern um ein Konglomerat verschiedener Aspekte und Fähigkeiten handelt, für das die Beschreibung „kompetenter professioneller Umgang mit sozialer und kultureller Vielfalt“ passender erscheint (Gültekin, 2005, S. 373).

In den folgenden Kapiteln wird dargelegt, warum für diesen „professionellen Umgang“ insbesondere die Überzeugungen der Lehrenden über kulturelle Heterogenität von Bedeutung sein könnten und warum generische Modelle professioneller Kompetenz besser dafür geeignet sind, diejenigen Fähigkeiten zu beschreiben, die für erfolgreiches Unterrichten in kulturell heterogenen Klassen nötig sind, als das Konzept interkultureller Kompetenz. In Abgrenzung zu früheren Forschungsarbeiten zum Umgang von Lehrkräften mit kultureller Heterogenität verfolgt die vorliegende Studie eine quantitative Herangehensweise und folgt damit sozialpsychologischer Forschung zu Intergruppen-Beziehungen.

2.3.1 Interkulturelle Kompetenzen von Lehrenden

bundesweiten Integrationsprogramms, dass sich die pädagogische Praxis und die Qualifizierung und die Ausbildung des pädagogischen Personals nur langsam des Themas kultureller Heterogenität annimmt (Bundesanamt für Migration und Flüchtlinge, 2010, S. 83).


Für sie ist dafür die Fähigkeit zur Selbstreflexion, ebenso wie die „Alltagstheorien“ über Kultur differenzen, die besonders in interkulturellen Kommunikations- und Interaktionsprozessen eine entscheidende Rolle spielen könnten.


2.3.2 Forschungsstand zum Umgang mit kultureller Heterogenität in Deutschland

In den letzten zwanzig Jahren haben verschiedene Forschungsprojekte untersucht, wie Lehrkräfte in Deutschland mit kultureller Heterogenität und Mehrsprachigkeit umgehen. Obwohl es große Unterschiede zwischen den Forschungsprojekten hinsichtlich der Forschungsfragen und Untersuchungsschwerpunkte, der Studienanlage und der Forschungsmethoden gibt, legen die Forschungsbefunde nahe, dass es in Deutschland an einem einheitlichen Konzept mangelt, wie die Schule als Ganzes und die Lehrkraft als einzelne mit kultureller Heterogenität umgehen sollte (Auernheimer, 2006). Gleichzeitig unterstreichen die Befunde die Bedeutung kultureller Überzeugungen, wenn auch nicht immer von den Autor(innen) explizit hervorgehoben.

zufolge spielten die Einstellungen und Überzeugungen der Lehrkräfte im Kollegium zu Multikulturalität sowie ihr Unbehagen, mit der kulturellen Vielfalt überfordert zu sein oder nicht angemessen auf die Bedürfnisse der Schüler(innen) eingehen zu können, eine zentrale Rolle bei der Entscheidung, an dem Schulversuch teilzunehmen. Zu diesen Einstellungen und Überzeugungen über kulturelle Heterogenität, so die Autorin, gibt es bisher noch keine umfassenden oder repräsentativen Untersuchungen.


2.4 Professionelle Kompetenz im Kontext kultureller Heterogenität

2.4.1 Das COACTIV-Modell professioneller Kompetenz von Lehrkräften

In Hinblick auf den Forschungsstand sollte deutlich geworden sein, dass ein umfassendes Modell interkultureller Kompetenz bisher noch fehlt. Allerdings wurden in den letzten Jahren im deutschsprachigem Raum verschiedene generische Modelle der professionellen Kompetenz von Lehrkräften entwickelt, die auch diejenigen Fähigkeiten beschreiben können, über die Lehrenden im Kontext kultureller Heterogenität verfügen sollten. Und so ist es
naheliegend, sich erst einmal an diesen zu orientieren (Blömeke, Kaiser & Lehmann, 2008; Kunter et al., 2011).


Im Rahmen des COACTIV-Forschungsprogramms konnte u.a. gezeigt werden, dass sich Lehrkräfte hinsichtlich der Ausprägung ihrer professionellen Kompetenz unterscheiden und dass diese Unterschiede sich in der Art der Unterrichtsgestaltung und in der Leistungsentwicklung und Motivation der Schüler(innen) widerspiegelten. Schüler(innen), die von Lehrkräften mit höherer professionellen Kompetenz unterrichtet wurden, lernten während des Verlaufs eines Schuljahres mehr als Schüler(innen), die von einer Lehrkraft mit niedrigerer professioneller Kompetenz unterrichten wurden (vgl. Krauss et al., 2004). Dieser Zusammenhang wurde über die Unterrichtsgestaltung der Lehrer(innen) vermittelt (Baumert et al., 2010). Die Art der Unterrichtsgestaltung ist ein gutes Beispiel dafür, wie das Verhalten der Lehrkräfte durch ihre professionelle Kompetenz beeinflusst wird. Ein weiteres Beispiel ist die Fähigkeit der Lehrkräfte, die Leistung ihrer Schüler(innen) und das Schwierigkeitsniveau
ihrer Unterrichtsmaterialien akkurat einschätzen zu können (für den Begriff der diagnostischen Fähigkeiten vgl. u. a. Anders et al., 2010; Spinath, 2005).

**Abbildung 2.1**
Das Modell der professionellen Kompetenz von Lehrkräften adaptiert für die Arbeit im kulturell heterogenen Kontext mit den vier generischen Aspekten professioneller Kompetenz und den Kompetenzbereichen und Kompetenzfacetten spezifisch für das Unterrichten von Schüler(inne)n mit Migrationshintergrund


und weniger in ihren Lernprozessen unterstützt werden als Klassen, deren Lehrkraft über geringere transmissive Überzeugungen verfügt (Dubberke et al., 2008).


2.4.2 Begriffsbestimmung „Überzeugungen“

sind damit von allen geteilte Auffassungen und Verhaltensmuster, die definieren, wie unterschiedliche Gruppen sich begegnen und miteinander in Interaktion treten sollten. In diesem Sinne können Überzeugungen über kulturelle Heterogenität mit Einstellungen zu Akkulturation verglichen werden, die ebenfalls beschreiben, welche Erwartungen Personen an Menschen anderer kultureller Herkunft stellen bzw. wie das Zusammenleben von unterschiedlichen Kulturen am besten gelingt (Berry et al., 1989; van Dick et al., 1997). Dabei können sich Personen in ihren Überzeugungen unterscheiden, ob und wie sehr der kulturelle Hintergrund als ein unterschiedendes Merkmal bei Interaktionsprozessen herangezogen oder – im Gegensatz dazu – ignoriert werden sollte (Hahn et al., 2010; Park & Judd, 2005; Wolsko et al., 2006; Wolsko et al., 2000, vgl. auch Edelmann, 2006).

Studien aus der Sozialpsychologie zeigen zum Beispiel, dass die Überzeugungen über kulturelle Heterogenität, über die eine Person verfügt, zum einen die Art und Weise beeinflussen, wie Mitglieder der Eigen- und Fremdgruppe bewertet, und zum anderen, wie ethnische Kategorien und Zuschreibungen verwendet werden (Judd, Park, Ryan, Brauer & Kraus, 1995; Richeson & Nussbaum, 2004; Vorauer, Gagnon & Sasaki, 2009; Wolsko et al., 2006; Wolsko et al., 2000).

2.4.3 Modell interethnischer Ideologien

Abbildung 2.2
Das Modell interethnischer Ideologien nach Hahn, Judd & Park (2010). Die in der vorliegenden Studie untersuchten Überzeugungen sind grau unterlegt

<table>
<thead>
<tr>
<th>Bewertung der Fremdgruppe</th>
<th>niedrig (Unterschiede sollten überwunden werden)</th>
<th>hoch (Unterschiede sollten hervorgehoben werden)</th>
</tr>
</thead>
<tbody>
<tr>
<td>positiv</td>
<td>Egalitarismus / Colorblindness</td>
<td>Multikulturalismus</td>
</tr>
<tr>
<td>negativ</td>
<td>Assimilation</td>
<td>Separatismus/ Segregation</td>
</tr>
</tbody>
</table>

*Quelle:* Hahn, Judd & Park (2010), eigene Übersetzung.

politisch in der Zustimmung zu einer restriktiven Zuwanderungspolitik bis hin zur grundsätzlichen Ablehnung von Immigration aus.


Auf den pädagogischen Kontext angewandt beschreiben multikulturelle Überzeugungen, wie sehr Lehrkräfte „die Beibehaltung kultureller Integrität unterstützen und somit in ihrem Unterricht stärker auch auf verschiedene Kulturen ihrer Schülerschaft“ einzugehen versuchen (Voss et al., 2011, S. 253). Lehrende mit stärker ausgeprägten multikulturellen Überzeugungen sind bereit, sich auf die unterschiedlichen Wertesysteme verschiedener Kulturen einzulassen, ohne dabei notwendigerweise ihr eigenes Wertesystem aufzugeben. Darüber hinaus versuchen Lehrende mit multikulturellen Überzeugungen, kulturelle Vielfalt und damit
verbundene unterschiedliche Bedeutungs- und Kommunikationsmuster für die Gestaltung ihres Unterrichts zu berücksichtigen (vgl. Kapitel 4). Im Gegensatz zu Lehrkräften mit multikulturellen Überzeugungen teilen Lehrkräfte mit egalitären Überzeugungen die Meinung, dass der kulturelle Hintergrund der Schüler(innen) kaum eine Rolle für die Lehr- und Lernprozesse spielt und man stattdessen auf Gemeinsamkeiten der Schüler(innen) fokussieren sollte.


2.4.4 Verortung der kulturellen Überzeugungen in der vorliegenden Arbeit


Den Schwerpunkt der Arbeit auf die positiven Überzeugungen über kulturelle Heterogenität zu legen hatte mehrere Gründe. Erstens ist davon auszugehen, dass die meisten Lehrkräfte und Lehramtsanwärter(innen) grundsätzlich positive Einstellungen zu kultureller Heterogenität und Schüler(inne)n mit Migrationshintergrund haben und nicht explizit fremdenfeindliche


Letztlich könnte die konzeptuelle Unterscheidung von multikulturellen und egalitären Überzeugungen außerdem einen Ansatzpunkt bieten, um die teils ambivalenten Befunde früherer Arbeiten besser verstehen und interpretieren zu können. Denn in früheren Arbeiten wurde den Lehrkräften z. T. sowohl vorgeworfen zu stereotypisieren und zu benachteiligen, also ethnische Unterschiede zu viel zu betonen und negativ zu verwenden, als auch Differenzen zu wenig wahrzunehmen oder zu wenig zu akzeptieren.

Warum gerade dieser Ansatz mit dem Fokus auf wertschätzende Überzeugungen auch für die Bildungsforschung im Allgemeinen und für den Umgang von Lehrenden mit kultureller Heterogenität besonders fruchtbar sein könnte, wurde in der vorliegenden Arbeit in drei Teilstudien (Teilstudien 2 bis 4) untersucht. Die theoretischen Hintergründe werden in den folgenden Kapiteln 2.5, 2.6 und 2.7 noch detaillierter erläutert. Die der Arbeit zugrundeliegenden theoretischen Annahmen sind schematisch in Abbildung 2.3 dargestellt.

kulturellen Überzeugungen beeinflussen könnten. Schließlich stellt die Zusammensetzung der Schülerschaft selbst eine strukturelle Voraussetzung dar. An Schulen mit einem höherem Anteil von Schüler(inne)n mit Migrationshintergrund wird die Auseinandersetzung mit den eigenen kulturellen Überzeugungen sehr wahrscheinlich mehr gefordert als an Schulen, die kulturell homogener sind.

Abbildung 2.3
Zusammenhänge und Wirkung von Überzeugungen über kulturelle Heterogenität auf die professionelle Kompetenz und das professionelle Handeln von Lehrkräften für das Unterrichten von Schüler(inne)n mit Migrationshintergrund: schematisches Modell zur Darstellung der theoretischen Annahmen

In der vorliegenden Arbeit werden die kulturellen Überzeugungen zwar einerseits als Teil der professionellen Kompetenz von Lehrkräften operationalisiert, gleichzeitig wird aber auch ihr besonderer Status für das Unterrichten in kulturell heterogenen Klassen hervorgehoben. In Abbildung 2.3 wird dies durch den breiten Pfeil dargestellt, der zwischen den multikulturellen und egalitären Überzeugungen und der professionellen Kompetenz verläuft. Teilaspekte professioneller Kompetenz im weiteren Sinne, die für das Unterrichten von Schüler(inne)n mit Migrationshintergrund von besonderer Bedeutung sein könnten, sind die motivationalen Orientierungen und die Werthaltungen. In der vorliegenden Arbeit werden die Selbstwirkungserwartungen, der Enthusiasmus und die integrativen Berufswahlmotive als Bereiche

Die professionelle Kompetenz wiederum sollte sich im Unterrichtshandeln der Lehrkräfte niederschlagen. Hierzu zählen u. a. die Planung und Gestaltung der Unterrichtsstunden, die Auswahl der Lehrmaterialien, Testerstellung und das Einhalten auf Schülerfragen. Als Annäherung an das Unterrichtshandeln wurde in der vorliegenden Arbeit die selbstberichtete Bereitschaft erfasst, den Unterricht an eine kulturell heterogene Schülerchaft anzupassen (vgl. 2.6.2 und Kapitel 5, Teilstudie 3).


Nachdem der Forschungstand und der gesamtheoretische Rahmen der vorliegenden Arbeit vorgestellt wurde, soll in den folgenden Kapiteln nun noch detaillierter auf die theoretischen Hintergründe der untersuchten Fragestellungen eingegangen werden. Dabei wird zunächst der Stand der Forschung zur Erfassung der kulturellen Überzeugungen von Lehrenden skizziert (2.5) und auf die Untersuchung von multikulturellen und egalitären Überzeugungen und ihre Zusammenhänge mit Teilaspekten professioneller Kompetenz im weiteren Sinne eingegangen (2.6). Kapitel 2.7 zitiert Forschung zu Lehrenden mit Migrati-
onshintergrund und diskutiert, warum multikulturelle Überzeugungen eine vermittlende Rolle zwischen eigenem Migrationshintergrund und den motivationalen Orientierungen und Werthaltungen von Lehrenden spielen könnten. Anschließend werden in Kapitel 2.8 die Datenbasis und die Fragestellungen der Teilstudien beschrieben.

2.5 Erfassung der kulturellen Überzeugungen von Lehrenden


Dementsprechend bleiben die Auswertungen deskriptiv, die empirische Überprüfung, ob sich vier Faktoren identifizieren lassen bleibt aus, Skalen werden nicht gebildet, Trennschärften nicht berichtet. Vor diesem Hintergrund ist auch die Diskussion der Befunde kritisch zu bemerken.


2.6 Kulturelle Überzeugungen als Teilaспект professioneller Kompetenz

2.6.1 Untersuchung von multikulturellen und egalitären Überzeugungen


In der bereits weiter oben beschriebenen deutschsprachigen Studie untersuchten Wagner et al. (2000) den Einfluss der kulturellen Überzeugungen von Lehrkräften auf den Umgang mit (interkulturellen) Problemsituationen. Die teilnehmenden Lehrkräfte beantworteten zunächst Fragen zu ihren Überzeugungen (erhoben mit der Akkulturationsskala von van Dick et al.,


2.6.2 Zusammenhänge mit spezifischen Aspekten professioneller Kompetenz


Ein Großteil der Forschung hat sich bisher auf die fachspezifischen Wissensaspekte und auch die fachspezifischen Überzeugungen als Teil professioneller Kompetenz konzentriert.

2.6.2.1 Motivationale Orientierungen

„entscheidende Voraussetzungen für die Bereitschaft zu handeln“ (Baumert & Kunter, 2011, S. 31).

vorbereitet fühlen als auf das Unterrichten von Schüler(innen)n nicht-europäisch-amerikanischer Herkunft.


dies die Bereitschaft voraus, sich auf unterschiedliche Kulturen einzulassen, diese wertzuschätzen und fördern zu wollen. Doch nicht bei allen angehenden Lehrkräften ist diese Bereitschaft glei-chemaßen ausgeprägt, und nicht jede Berufsentscheidung wird von integrativen Berufswahlmotiven geleitet. In den USA gibt es seit einigen Jahren spezielle Ausbildungsprogramme, die Lehramtsanwärter(innen) auf die Arbeit in ethnisch und kulturell heterogenen Kontexten vorbereiten sollen. Doch selbst in sehr spezialisierten Ausbildungsprogrammen scheinen sich die Studierenden in ihren integrativen Berufswahlmotiven zu unterscheiden. Auch hier zeigt sich, dass die Lehramtskandidat(inn)en zwar sozial und kulturell heterogene Klassen unterrichten möchten, diese aber nicht zu heterogen sein sollten (Watson, 2011). Diese spezifischen, integrativen Berufswahlmotive sind auch als eine Form von Verantwortung („responsibility“) konzeptualisiert worden und gelten als wichtige Voraussetzungen für professionelles Handeln (Silvermann, 2010).

2.6.2.2 Werthaltungen

Die Werthaltungen von Lehrenden können ihre Wahrnehmung beeinflussen und sich somit auf ihr Verhalten und auf ihre „Begegnung mit den Schüler(inne)n im Unterricht“ auswirken (Voss et al., 2011, S. 235). In Bezug auf das Unterrichten in sprachlich und kulturell heterogenen Klassen werden die Vorurteile als Teil der Werthaltungen der Lehramtsanwärter(innen) untersucht.


2.7 Multikulturelle Überzeugungen und Migrationshintergrund

Inwiefern der Umgang mit kultureller Heterogenität im Sinne einer professionellen Handlungskompetenz vermitteln- und erlernbar ist oder im Gegenteil auf dem eigenen Erfahrungshintergrund beruht, wurde in den letzten Jahren in Deutschland sowohl in der Wissenschaft als auch in der Öffentlichkeit diskutiert. Ausschlaggebend waren dabei u. a. verschiedene Initiativen zur Gewinnung von Menschen mit Migrationshintergrund für das

---

8 Im anglo-amerikanischen Raum wird aufgrund der unterschiedlichen Einwanderungsgeschichte meist zwischen Schüler(inne)n der Minorität („minority students“) und der Majorität („majority students“) unterschieden.
9 Zu diesen Initiativen zählen u. a. das Förderprogramm „Horizonte“ von der Hertie-Stiftung, der Freien Universität Berlin und der Goethe-Universität Frankfurt, der Schülercampus „Lehrer mit Migrationshinter-

2.7.1 Forschungsstand zu Lehrenden mit Migrationshintergrund in Deutschland

Obwohl die Erwartungen an Lehrende mit Migrationshintergrund wie oben beschrieben sehr hoch angesetzt werden, ist der Forschungsstand in Deutschland bisher eher dürftig. Die ersten Studien, die Hinweise über das „Selbstverständnis“ (Georgi et al., 2011) und die „individuellen Umgangsweisen mit bildungspolitischen Erwartungen“ (Rotter, 2012) von Lehrkräften mit Migrationshintergrund in Deutschland liefern, sind erst seit 2011 erschienen.\(^\text{10}\)


Modells professioneller Kompetenz, so würde man annehmen, dass Lehrende mit Migrationshintergrund über günstigere motivationale Orientierungen, Werte und Überzeugungen in Bezug auf das Unterrichten von Schüler(innen) mit Migrationshintergrund verfügen.

2.7.2 Vergleichende Studien zu Lehrenden mit und ohne Migrationshintergrund


2.7.3 Vermittlende Rolle von multikulturellen Überzeugungen


In Bezug auf Werthaltungen haben sozialpsychologische Studien gezeigt, dass Menschen mit multikulturellen Überzeugungen sensibler mit kulturellen Unterschieden umgehen und
meist über weniger Vorurteile verfügen als Menschen, die weniger auf den Hintergrund und mehr auf Gemeinsamkeiten achten (Vorauer et al., 2009; Wolsko et al., 2000). Wenn multikulturelle Überzeugungen positiv mit eigenem Migrationshintergrund und negativ mit berichteten Vorurteilen zusammenhängen, könnten sie eine vermittelnde Rolle zwischen Migrationshintergrund und Vorurteilen spielen. Solch eine vermittelnde Rolle wäre unabhängig davon, ob es Unterschiede zwischen Lehramtsanwärter(inne)n mit und ohne Migrationshintergrund gibt (dem entspricht ein Haupeffekt für Migrationshintergrund).


2.8 Ziel und Fragestellungen der vorliegenden Arbeit

Den theoretischen Hintergrund zusammenfassend untersucht die vorliegende Arbeit die Relevanz, Erfassung und die Auswirkungen von Überzeugungen über kulturelle Heterogenität auf die professionelle Kompetenz von Lehrenden.

Aus dem Forschungsstand wird deutlich, dass sich die kulturellen Überzeugungen auf verschiedenen Ebenen im Unterricht auswirken könnten. So könnten sie beispielsweise dazu führen, dass bei der Leistungseinschätzung sprachliche und kulturelle Differenzen nicht ausreichend berücksichtigt werden. Dies wiederum könnte zu systematischen Fehleinschätzungen der Leistungen von Schüler(inne)n mit Migrationshintergrund führen. Um zunächst zu überprüfen, ob sich Indizien für solch systematische Fehleinschätzungen finden lassen, wurde in im erste Teil der Arbeit die Genauigkeit von Leistungseinschätzungen von Schüler(inne)n deutscher und nichtdeutscher Herkunftssprache untersucht (vgl. Kapitel 3, Teilstudie 1)

Die der gesamten Arbeit zugrundeliegende Annahme ist, dass Lehrende die migrationspezifischen Besonderheiten ihrer Schüler(innen) nicht ausreichend wahrnehmen und in ihren Bewertungen „differenzblind“ gegenüber dem sprachlichen Hintergrund der Schüler(innen) sind. Diese Differenzblindheit kann ferner als Überzeugung bezeichnet werden, wie mit kultureller Heterogenität im schulischen Kontext umgegangen werden sollte. In sozialpsychologischen Studien zu Intergruppen-Beziehungen werden differenzblinde oder auch egalitäre

2.8.1 Datengrundlage der vorliegenden Arbeit


Die COACTIV-Studie profitiert von der Einbettung in die PISA-Studie, deren Schwerpunkt 2003 auf der mathematischen Kompetenz der Schüler(innen) lag, indem sie die Mathematiklehrkräfte der am deutschen Längsschnitt teilnehmenden Schulklassen (Klassenstufe 9) untersucht. Durch das Studiendesign war es möglich, die Daten der über 300 teilnehmenden Lehrkräfte mit den Daten der repräsentativen Schülerstichprobe zu verbinden. Diese Einbettung hat mehrere Vorteile für die Untersuchung der Fragestellung: Erstens kannten die Lehrkräfte die Schüler(innen), deren Leistungen sie vorhersagen sollten, bereits, und zweitens konnten die durch PISA erhobenen Hintergrundvariablen auf Seiten der Schüler(innen) ebenfalls verwendet werden. Dazu gehören auch das Geburtsland der Eltern und des bzw. der Jugendlichen sowie die Sprache, die ein(e) Jugendliche(r) zu Hause mit den Eltern spricht. Darüber hinaus konnte die Fragestellung an zwei curricular validen Aufgaben untersucht werden, die von unabhängigen Experten auf verschiedenen Dimensionen hinsichtlich ihrer mathematischen und sprachlichen Komplexität bewertet wurden (vgl. Jordan et al., 2008 und Kapitel 3). Die Experten kamen zu dem Schluss, dass die Aufgaben
zwar mathematisch ein vergleichbares Schwierigkeitsniveau aufwiesen, sich jedoch hinsichtlich der sprachlichen Komplexität unterschieden.

Für die Überprüfung der Hypothesen wurden die Schüler(innen) in drei Gruppen einge-teilt: Jugendliche ohne Migrationshintergrund (80%), Jugendliche mit Migrationshintergrund (d.h. mindestens ein Elternteil nicht in Deutschland geboren), die zu Hause Deutsch sprechen (7%), sowie Jugendliche mit Migrationshintergrund, die zu Hause kein Deutsch sprechen (13%). Diese Eingruppierung erfolgte unabhängig von der Staatsangehörigkeit der Jugendlichen: Migrationshintergrund wurde über das Geburtsland der Eltern und des bzw. der Jugendlichen definiert. Über die zu Hause gesprochene Sprache konnte für jede(n) Schüler(in) angeben werden, ob sie Deutsch als Erst- oder Zweisprache sprechen. Die Interaktionshypo-these wurde mithilfe eines Mehrebenen-Modells überprüft, indem Mathematikleistung, Leseleistung und sozioökonomischer Status der Schüler(innen) kontrolliert und die Schulzugehörigkeit berücksichtigt wurde.


von Lehramtsanwärter(inne)n befragt: Lehramtsanwärter(innen), die soeben ihren Vorbereitungsdienst begonnen haben (Kohorte 1) und Lehramtsanwärter(innen), die bereits seit einem Jahr ihren Vorbereitungsdienst absolvieren (Kohorte 2). Für die Teilstudie 4 werden Lehramtsanwärter(innen) mit und ohne Migrationshintergrund vergleichend untersucht. Eine genauere Beschreibung der untersuchten Substichprobe findet sich in den jeweiligen Kapiteln (Kapitel 4.5, 4.7, 5.7 und 6.4). Die für die vorliegende Arbeit relevanten Variablen wurden zum ersten Messzeitpunkt in den Bundesländern Nordrhein-Westfalen und Baden-Württemberg erfasst; insgesamt wurden Daten von 433 Teilnehmenden ausgewertet.

Der Fokus auf Lehramtsanwärter(inne)n, die sich noch in der Lehrerausbildung befinden, ist für die Untersuchung von kulturellen Überzeugungen besonders interessant. Beim Referendariat handelt es sich einerseits um eine berufliche Entwicklungsphase, in der sich individuelle Unterschiede herausbilden sollten, andererseits kann davon ausgegangen werden, dass die kulturellen Überzeugungen stark von Alltagstheorien geprägt sind und kaum in der Ausbildung thematisiert werden. In diesem Zusammenhang wurde von verschiedenen Forschern angemerkt, dass Referendare und Lehrkräfte, die am Beginn ihrer Karriere stehen\textsuperscript{11}, häufig unreflektierte Überzeugungen über kulturelle Heterogenität mitbringen, die als Barriere für effektiven Unterricht in kulturell heterogenen Klassen fungieren können (Bryan & Atwater, 2002; für eine Übersicht siehe auch Castro, 2010).

2.8.2 Teilstudie 1: Genauigkeit der Leistungseinschätzungen

In Teilstudie 1 (Does immigration background matter? How teachers’ predictions of students’ performance relate to student background) wurde die Fragestellung untersucht, ob sich negative Migrationseffekte bei der Genauigkeit der Leistungsbeurteilungen von Lehrenden finden lassen oder ob sich diese durch weitere sprachliche Faktoren erklären lassen. Dabei wurde getestet, ob Lehrkräfte die Leistungen von Schüler(inne)n ohne Migrationshintergrund akkurater vorhersagen als die von deutschsprachigen Schüler(inne)n mit Migrationshintergrund oder zweisprachig aufwachsenden Schüler(inne)n, und ob sie in ihren Leistungseinschätzungen auch die sprachlichen Anforderungen der Mathematikaufgaben zusätzlich zu dem sprachlichen Hintergrund der Schüler(innen) berücksichtigen. Die Leistungseinschätzungen spielen eine zentrale Rolle für Unterrichtsplanung, Notengebung, Überweisung in Förderkurse u.v.m. und somit für das Lernen und die Schullaufbahn der

\textsuperscript{11} In der englischsprachigen Literatur wird häufig von „teacher candidates“ oder „beginning teachers“ oder „preservice teachers“ gesprochen. Die Gruppen unterscheiden sich darin, wie viel und eigenständig sie bereits unterrichten und ob sie weiterhin Kurse an der Universität oder einem ähnlichen Lehrerausbildungsinstituts besuchen.

Aus der Fragestellung ergaben sich zwei Hypothesen, die in Teilstudie 1 untersucht wurden: Erstens, dass Mathematiklehrkräfte zwar die Leistung ihrer Schüler(innen) mit Migrationshintergrund überschätzen, dass diese Überschätzung jedoch nicht auf den Migrationshintergrund zurückzuführen ist, sondern alle Schüler(innen) betrifft. Und zweitens, dass Lehrkräfte die Mathematikleistung ihrer Schüler(innen) mit Migrationshintergrund nur dann signifikant mehr überschätzen als die Leistungen ihrer deutschen Mitschüler(innen), wenn diese a) einen nicht-deutschen sprachlichen Hintergrund haben und b) die Mathematikaufgabe sprachlich komplex ist (Interaktionsannahme). Um die Interaktionsannahme zu testen, wurden die Lehreinschätzungen für die zwei sprachlich unterschiedlich komplexen Mathematikaufgaben jeweils für die drei Schülergruppen verglichen (ohne Migrationshintergrund, mit Migrationshintergrund deutscher Herkunftssprache und mit Migrationshintergrund nichtdeutscher Herkunftssprache).

2.8.3 Teilstudien 2 und 3: Erfassung der kulturellen Überzeugungen und Zusammenhängen mit professioneller Kompetenz

In Teilstudie 2 (Assessing teachers’ multicultural and egalitarian beliefs: The Teacher Cultural Beliefs Scale) wird die Entwicklung und Validierung der Teacher Cultural Beliefs Scale (TCBS) beschrieben. Die Erarbeitung eines eigenen Fragebogens war notwendig, da die bisher im pädagogischen Kontext eingesetzten Fragebögen zwar einige gute Ansatzpunkte lieferten, für die Untersuchung der Fragestellung dieser Arbeit jedoch unzureichend sind. Ein Ziel dieser Arbeit war es, einen Fragebogen zu entwickeln, der (a) auf sozialpsychologischen Theorien über unterschiedliche Überzeugungen über kulturelle Heterogenität fußt und (b) die multikulturellen Überzeugungen und egalitären Überzeugungen von Lehrenden mit einem besonderen Fokus auf Schule und Schüler(innen) mit Migrationshintergrund valide erfasst.


Teilstudie 3 (Should teachers be colorblind? How multicultural and egalitarian beliefs differentially relate to aspects of teachers’ professional competence for teaching in diverse classrooms.) bettet die multikulturellen und egalitären Überzeugungen in das Rahmenmodell professioneller Kompetenz ein, das spezifisch für das Unterrichten von Schüler(inne)n mit Migrationshintergrund operationalisiert wird, und untersucht die Zusammenhänge mit weiteren Teilaspekten professioneller Kompetenz im weiteren Sinne. Salopp gesprochen untersucht die Arbeit in Teilstudie 3, ob multikulturelle oder egalitäre Überzeugungen „besser“ für das Unterrichten von Schüler(inne)n mit Migrationshintergrund sind. Diese „Bewertung“ wird gemessen anhand positiverer Zusammenhänge mit verschiedenen Aspekten professioneller Kompetenz: den motivationalen Orientierungen (Selbstwirksamkeit
und Enthusiasmus für das Unterrichten von Schüler(inne)n mit Migrationshintergrund) und Werthaltungen (Vorurteile über die schulbezogenen Lernmotivation von Schüler(inne)n mit Migrationshintergrund).


In Bezug auf die integrativen Berufswahl motive wurde die Hypothese geprüft, dass multikulturelle Überzeugungen verstärkt mit integrativen Berufswahlmotiven zusammenhängen; für egalitäre Überzeugungen wurde dieser Zusammenhang nicht erwartet.

Die Ergebnisse werden in Kapitel 5 in Hinblick auf ihre praktische Relevanz diskutiert.

2.8.4 Teilstudie 4: Multikulturelle Überzeugungen und Migrationshintergrund

Teilstudie 4 (Herkunft oder Überzeugung? Welche Rolle spielen der Migrationshintergrund und multikulturelle Überzeugungen für das Unterrichten von Kindern mit Migrationshintergrund?) setzt sich kritisch mit der Frage auseinander, ob Lehramtsanwärter(innen) mit Migrationshintergrund qua Herkunft eine höhere professionelle Kompetenz mitbringen oder ob der Zusammenhang zwischen Herkunft und Kompetenz über die multikulturellen Überzeugungen vermittelt wird. Ausgehend vom COACTIV-Modell der professionellen Kompetenz von Lehrkräften untersucht Teilstudie 4 die Selbst-wirksamkeitserwartungen und den Enthusiasmus für das Unterrichten von und die Vorurteile über Schüler(inne)n mit Migrationshintergrund vergleichend für Lehramtsanwärter(innen) mit und ohne Migrations-


Schließlich wird in der Teilstudie 4 die Interaktionshypothese überprüft, derzufolge der Zusammenhang zwischen Migrationshintergrund und den drei Kriteriumsvariablen über die multikulturellen Überzeugungen vermittelt wird. Die Kriteriumsvariablen sind dabei die drei Kompetenzbereiche Selbstwirksamkeitserwartungen und Enthusiasmus für das Unterrichten von Schüler(inne)n mit Migrationshintergrund, und die schul- und lernbezogenen Vorurteile über Schüler(innen) mit Migrationshintergrund.
2.9 Literatur


Staub, F. C. & Stern, E. (2002). The nature of teachers’ pedagogical content beliefs matters for students' achievement gains: Quasi-experimental evidence from elementary math-


Teilstudie 1: Does immigration background matter? How teachers’ predications of students’ performance relate to student background

Notice: This is the authors’ version of a work that was published in *International Journal of Educational Research*:


http://dx.doi.org/10.1016/j.ijer.2010.09.002
Abstract
Accurate teacher evaluations of student performance are crucial for effective teaching. This study examined whether students’ immigration and language background affect teachers’ evaluations. Multilevel analyses tested whether teachers overestimate the performance of immigrant relative to that of non-immigrant students. As part of the German PISA 2003 assessment, 305 teachers predicted the performance of seven of their students on two mathematics problems of different linguistic complexity. Results revealed an interaction effect of students’ language background and linguistic complexity of the problem on teachers’ predictions. Teachers overestimated the performance of bilingual students more than the performance of monolingual immigrant or non-immigrant students on a linguistically complex problem. Teachers need to consider both students’ language background and linguistic demands of the material used to appropriately support bilingual students.

Keywords: immigrant students, teacher predictions, prediction accuracy, bilingual students, international education
3 Does immigration background matter? How teachers’ predictions of students’ performance relate to student background

3.1 Introduction

Low academic performance of minority or immigrant students has been a stable phenomenon for decades in many Western countries, as documented by large-scale international assessments such as the Programme for International Student Assessment (PISA). Results from PISA indicate that immigrant students often perform at levels significantly lower than non-immigrant students, even though they are often motivated learners (Organisation for Economic Cooperation and Development [OECD], 2004; Stanat & Christensen, 2006). On a societal level, the performance gap between minority and majority students poses many problems, and researchers from different fields and countries have discussed the role education should play in days of rising cultural pluralism (cp. Phillips & Callan, 2001). The performance gap has been found to be especially pronounced in Germany, where immigrant students are overrepresented in groups at risk for academic failure and underrepresented in college-bound school tracks (Organisation for Economic Cooperation and Development [OECD], 2004; Stanat & Christensen, 2006). At the same time, the number of students who are foreign-born or have foreign-born parents is growing rapidly. In the following, these students will be referred to as immigrant students.

Since the publication of the first PISA results, teachers have been blamed for failing to provide immigrant students with proper support, and thereby perpetuating the achievement gap. Teachers have been held responsible for the achievement gap for several reasons: First, students spend much of their time in interaction with their teachers, and teachers play a key role in determining how and what children learn (Ferguson, 2003). Second, teacher expectations have been shown to influence student outcomes (Alexander & Schofield, 2006). Third, many decisions (e.g., lesson planning, grading, tracking) are based on teachers’ evaluations and predictions of students’ achievement (Helmke & Schrader, 1987; Hoge & Butcher, 1984; Hoge & Coladarci, 1989). Accurate evaluations of student performance are hence highly relevant for students’ learning progress. Based on the existing literature, it is unclear whether teachers have different expectations for immigrant and non-immigrant students, whether their evaluations and predictions of student performance differ across student groups, and whether these differences are caused by ethnicity or other related factors.
In the following, we first summarize research on teacher expectations for minority students, the findings of which are inconsistent. Secondly, we discuss research on teacher evaluations and predictions and how inaccurate teacher evaluations can perpetuate the achievement gap between immigrant and non-immigrant students. In the following, the terms evaluation and prediction will be used interchangeably to refer to the process of evaluating or judging a performance of a given student by the teacher. Third, we suggest that students’ language background systematically influences the accuracy of teachers’ evaluations.

We argue that teachers do not purposefully perpetuate the achievement gap, but that they are inadequately prepared to accurately assess the performance of immigrant students from different language backgrounds. Accordingly, we take a closer look at bilingual immigrant students and the linguistic complexity of the teaching material used.

The approach we take has been labeled ‘conditional neutrality’ (Ferguson, 2003). Conditional neutrality takes other relevant predictors into account when investigating ethnic bias. From this perspective, bias can be defined as the difference between teachers’ assessments and a defined benchmark. Controlling for other relevant variables acknowledges potential differences between groups whose effects would otherwise be classified as bias. Teacher expectations or evaluations are thus unbiased “if they are based on legitimate observable predictors of performance” (Ferguson, 2003, p. 466).

3.1.1 Teacher expectations

Research has shown that teacher expectations can serve as self-fulfilling prophecies (Eckert, Dunn, Codding, Begeny, & Kleinmann, 2006; Jussim, Eccles, & Madon, 1996; Rosenthal & Jacobson, 1968) and that low teacher expectations can undermine students’ academic performance (Schofield, 2006). Students from socially stigmatized groups that fare less well in school may be especially vulnerable to the negative effects of teacher expectations (Jussim & Harber, 2005). Three meta-analyses show that teachers in the United States expected more of White students than they do of African American or Hispanic students (Baron, Tom, & Cooper, 1985; Dusek & Joseph, 1983; Tenenbaum & Ruck, 2007). Auwarter and Aruguette (2008) found that teachers are likely to judge children from low-socioeconomic status as less favorably. Jussim and colleagues (Jussim et al., 1996) discuss the possibility that students from stigmatized groups may be more strongly affected by teachers’ expectations as a result of erroneous social stereotypes. In this case, inaccurate expectations could have a self-fulfilling prophecy effect.

However, there is also evidence for a positive bias towards minority or culturally stigmatized groups of students (Jussim et al., 1996). Findings reported by Lehmann and colleagues
suggest that immigrant students in Germany may even benefit from a positive grading bias (Lehmann, Peek, & Gänßfuß, 1997). One of the reasons for these conflicting results may lie in the different methods used (Tenenbaum & Ruck, 2007).

A common methodological approach to investigating expectations involves vignettes providing varying amounts of information on students’ background (Auwarter & Aruguete, 2008; Cooper, Baron, & Lowe, 1975; DeMeis & Turner, 1978). As Guttmann and Bar-Tal (1982) have shown, however, this approach has a decided tendency toward biased results. The authors conducted three studies in which they systematically varied the amount of information teachers received about students, who were to be rated on academic indicators. Results show that teachers indeed have stereotypical perceptions and expectations based on students’ ethnic origin and gender. The less information was available to the teachers, however, the more pronounced the effects of stereotypical perceptions on their expectations were found to be. The results highlight the importance of investigating teacher bias in real-life situations rather than in artificial experiments (Dusek & Joseph, 1983); further, they show how closely teacher expectations and evaluations are linked. Teachers’ expectations influence not only the support that teachers provide for individual students but also their evaluations of student performance.

3.1.2 Teacher evaluations

In their study on anti-immigrant sentiments in Danish classrooms, Wagner and colleagues (Wagner, Camparo, Tsenkova, & Camparo, 2008) cite evidence that teachers treat and evaluate minority and majority students differently. Inaccurate teacher evaluations of students’ academic abilities have been shown to hinder students’ learning processes by obstructing effective teacher behaviors (Dusek & Joseph, 1983). Accurate evaluations of students’ academic abilities are crucial for instructional planning and, eventually, positive student outcomes (Herman & Choi, 2008; Schrader & Helmke, 1990). Inaccurate evaluations, on the contrary, can impede the learning process: teachers can only select teaching materials on an appropriate level and offer the support needed if they understand where their students stand. If teachers’ evaluations are systematically biased, specific groups of students may benefit less from the instruction and thus be systematically disadvantaged. Such processes could result in a systematic performance gap. Previous studies of teacher prediction accuracy report an overall median correlation of .66 between teachers’ predictions of student performance and actual student performance (Hoge & Coladarci, 1989). This moderate to high correlation suggests that teachers are generally quite accurate in their evaluations. Nevertheless, the range of correlations reported is wide, suggesting that moderators (e.g., student ethnicity and linguistic background) may play an important role.
In a study with 32 German classes and their teachers, Schrader and Helmke (1990) investigated which factors influence mathematics teachers’ predictions of their students’ performance. Each student completed a curriculum-based mathematics test, an IQ test, and a questionnaire assessing sociodemographic (e.g., nationality) and motivational variables. Teachers were asked to judge how many points students would score in the mathematics test. Results from multilevel analyses indicated that intelligence, students’ mathematical self-concept, students’ effort, and learning-conducive activities were significant predictors of the accuracy of teachers’ predictions, but that ethnicity had no effects.

However, it is possible that no effects were found because ethnicity was operationalized in terms of nationality. Hence, the study could not distinguish between students from immigrant families who hold a German passport and students from non-immigrant families. Yet data from the microcensus show that about half of German residents with an immigration background hold a German passport (Woellert, Kröhnert, Sippel, & Klingholz, 2009). Thus, this approach fails to identify many students with an immigration background, and potentially a different language background, and may thus mask the effects of ethnicity.

3.1.3 Language of instruction

The relationship between proficiency in the language of instruction and academic outcomes has been widely discussed. Many studies show that immigrant students’ lower educational outcomes are closely related to their lower reading skills (Baumert & Schümer, 2001; Lehmann et al., 1997). At the same time, there is empirical evidence that teachers have difficulty identifying students with very low levels of reading proficiency (Artelt, Stanat, Schneider, & Schiefele, 2001). Hence, students with poor reading skills are less likely to succeed in school, but their academic failure is less likely to be attributed to their reading deficiencies. As a consequence, many of these students do not receive the necessary support. In Germany, immigrant students are significantly more likely than majority students to belong to this “at-risk” group (cf. Stanat & Christensen, 2006).

It is only recently that attention has been drawn to the importance of language proficiency for academic success in subjects other than language arts (Abedi & Lord, 2001, p. 219). For example, research has shown that students tend to have more difficulty solving mathematics problems expressed in words (word problems) than in numeric format (Abedi, Lord, & Plummer, 1997). In particular, English language learners (ELL students) score lower than native speakers in mathematics proficiency tests, and the performance difference is especially pronounced on linguistically complex items (Abedi et al., 1997).
In their experiment, Abedi and Lord (2001) found that students—especially low-achieving, low socioeconomic status, and ELL students—perform better when the linguistic complexity of mathematics problems is reduced but the mathematical content kept constant. In similar vein, Wolf and colleagues (Wolf, Herman et al., 2008) used a differential item functioning (DIF) approach to examine systematic bias against ELL students in standardized mathematics tests administered in three U.S. states. Wolf, Herman, et al. (2008) indeed found DIF against ELL students in some test items, meaning that an ELL student was less likely to solve the item than a non-ELL student with the same mathematical ability. The items identified featured substantially more academic English than the non-DIF items, suggesting that the abilities of ELL students may be masked by language difficulties. Drawing on these and similar findings, Abedi, Lord, and Plummer (1997) concluded that “bilingual students keep pace with monolinguals in mechanical arithmetic but fall behind in solving word problems” (p. 5).

Mathematical word problems are often couched in academic language, and some researchers have argued that immigrant students often lack sufficient cognitive academic language proficiency (CALP), even if their basic interpersonal communication skills (BICS) are good (cf. Cummins, 2002, for a distinction of BICS and CALP). Teachers may not recognize the specific linguistic challenges that mathematical word problems pose for an immigrant student, especially if that student has good communication skills and generally good mathematical content knowledge. As a consequence, they may overestimate the student’s performance (cf. Cummins, 2002).

Additionally, the linguistic complexity of word problems can vary, potentially affecting the ability of ELL students to respond (Wolf, Kao et al., 2008). Teachers may not take such linguistic considerations into account when choosing their teaching materials. Again, the result may be that they overestimate the performance of second language learners, in particular.

### 3.1.4 Research questions

To summarize, student characteristics such as ethnicity or language background may influence teacher expectations, evaluations, and predictions of students’ performance. However, empirical findings to date are mixed, and the precise roles played by ethnicity and language in teachers’ evaluations remain unclear.

In an attempt to close this research gap, the present study investigated the accuracy of mathematics teachers’ predictions of students’ performance on mathematics problems, taking the students’ language background into account. Because previous research has shown that
these relations should preferably be investigated in real-life settings, where teachers can be asked to evaluate their own students (Dusek & Joseph, 1983), we used data from a large-scale field assessment rather than vignettes.

In a first step, we investigated the accuracy of mathematics teachers’ predictions of student performance in general. We hypothesized that mathematics teachers would not be more likely to overestimate the performance of bilingual immigrant students than the performance of non-immigrant or monolingual immigrant students.

Instead we hypothesized that teachers’ accuracy in predicting immigrant students’ performance is related to linguistic complexity of the task. Therefore, we investigated whether teachers’ accuracy in predicting immigrant students’ performance differs between linguistically simple and complex mathematical problems. We hypothesized that mathematics teachers would only overestimate the performance of bilingual immigrant students relative to that of non-immigrant or monolingual immigrant students on linguistically complex problems.

3.2 Method

3.2.1 Sample

Data were collected as part of the COACTIV study (Kunter et al., 2007), which was embedded in the 2003/04 cycle of the German national component of the Programme for International Student Assessment (PISA, Prenzel et al., 2006). PISA is an internationally standardized assessment that is administered to 15-year-olds in schools around the globe at 3-year intervals. Data for the present study come from the 2003 assessment, which investigated student achievement in three domains – mathematics, reading, and science – with a focus on mathematics literacy. As part of the German national extension to PISA 2003, the COACTIV study assessed the teachers teaching in the respective PISA classrooms. The data set thus draws on a representative sample of teachers of grade 9 mathematics in Germany, which includes teachers from all German school tracks. As a part of teacher competence, the COACTIV study also assessed teachers’ diagnostic evaluations of student achievement. The project group explicitly chose mathematical problems that were given to the students and to the teachers to predict the students’ performance (for teacher competences see also Blum, Neubrand, & Krauss, 2008; Krauss, Baumert, & Blum, 2008; Krauss, Brunner et al., 2008). The analyses of the present study are based on this prior selection by the research group.

Participating teachers. The 305 mathematics teachers (41% female) in the present sample were on average $M = 48.50$ years old ($SD = 8.58$ years; range: 26–65 years). On average, they had been in the profession for $M = 22.36$ years ($SD = 10.19$ years; range: 3–42 years) and had
been teaching the PISA classes for 0 to 5 years ($M = 1.89, SD = 1.17$). Finally, 85.3% had majored in mathematics at university.

**Participating students.** Seven students were randomly selected from each of the 305 classes taught by the teachers in our sample, and the teachers rated these students’ performance on given mathematics problems that were included in the PISA test. Of the 305 teachers, 36 rated only six students, 4 teachers rated only five students, and 1 rated only four students. Hence, the final sample comprised $N = 2088$ students. Because of the real-life sample, not all teachers rated students from all three student groups (German, monolingual immigrant, bilingual immigrant). On average, students (50.5% female) were 15.25 years of age ($SD = 0.66$; range: 13–18 years). The students were very heterogeneous in terms of socioeconomic status (ISEI: $M = 50.94, SD = 16.2$; sample range 16–90, scale is described in the measures section). Further, 543 students (26%) reported that at least one of their parents was foreign-born (immigrant students) and 152 students (8%) spoke a language other than German at home with their families. Of the immigrant students, 149 (35%) reported that they spoke a language other than German at home.

### 3.3 Measures

#### 3.3.1 Independent variables

**Mathematics problems.** Two mathematics problems (see figure 3.1 and 3.2) from PISA 2003 for which teachers’ predictions of students’ performance and actual student performance data were available were chosen (Jordan et al., 2008) These problems displayed comparable mathematical complexity but differed in terms of linguistic complexity, making them especially suitable for investigating how linguistic complexity interacts with students’ language background to influence the accuracy of teachers’ evaluations.

The first problem was a geometric one that asked students to calculate the surface area of a kite. The second problem required knowledge of percentage calculation. Both problems exhibited curricular validity but differed with respect to their linguistic complexity and hence the language-related demands on the problem solver. In the *kite* problem, all relevant metrics could be read off the geometrical figure. In the *percentage* problem, the sentences had to be deconstructed and the relevant figures found and translated into the right equation. Therefore, any misunderstanding of the wording or phrasing of the problem would result in the wrong answer.
To assess differences in the linguistic complexity of the problems in more detail, we asked 12 experts in mathematics and education to rate the degree of language proficiency needed to solve each problem on rating scales adopted from Wolf et al. (Wolf, Herman et al., 2008). The first rating scale tapped the extent to which a test taker has to draw on language proficiency to solve the test item correctly. The scale ranged from 0 (“no language proficiency required”) to 3 (“language proficiency required to understand the relations between sentences”). For the percentage problem, all raters agreed that a high level of language proficiency was needed ($M = 3.00, SD = 0$). For the kite problem, language proficiency was rated to be less important ($M = 2.08, SD = 0.29$). The difference in ratings between the
problems was statistically significant ($t(11) = -11.00, p < .001$). The second rating scale assessed linguistic versus non-linguistic aspects of the test item. The scale ranged from 0 (“item consists entirely of non-linguistic features”) to 3 (“item consists entirely of linguistic features”). The expert ratings indicate that the *percentage* problem consists mainly of linguistic features ($M = 2.67, SD = 0.49$) and the *kite* problem more of non-linguistic features ($M = 1.17, SD = 0.39$). The difference in ratings between the problems was again significant ($t(11) = -6.51, p < .001$).

In sum, the experts concluded that the problems differed substantially with regard to their linguistic complexity, linguistic features, and the demands made on students’ language skills. Linguistic complexity was classified as high for the *percentage* problem and as low for the *kite* problem, and dummy coded ($1 = high$). In the following, we thus refer to the *percentage* problem as the linguistically high problem and to the *kite* problems as the linguistically low problem.

**Student characteristics.** Mathematical achievement, reading achievement, and socioeconomic status were included in the background model and served as control variables. Mathematical and reading achievement were operationalized by students’ $z$-scores on the PISA test (Prenzel et al., 2006). $Z$-scores were used to interpret results as standardized coefficients. Socioeconomic status (SES) was assessed by the *International Socio-Economic Index of Occupational Status* (ISEI, Ganzeboom, De Graaf, Treimann, & De Leeuw, 1992). The ISEI is based on international data on the income and educational background of different vocations. The scale covers the theoretical range from 16 (low SES; e.g., cleaning person) to 90 (high SES; e.g., judge).

Students’ immigration and language background was of special theoretical interest. Following the PISA 2003 assessment (Prenzel et al., 2006), immigration background was operationalized in terms of students’ and parents’ place of birth, with students who were foreign-born or who had at least one foreign-born parent being characterized as immigrant. Operationalizing immigration background via place of birth of participants and their parents instead of via nationality only has the advantage that children with immigrant background but German passport are included in the immigrant group. Information on students’ language background was obtained by a question asking which language they spoke most often at home. For the present study, data on immigration background was combined with data on the language spoken at home to distinguish three groups of students: non-immigrant (German) students (80%), German-monolingual immigrant students (monolingual, 7%), and immigrant students who speak a language other than German at home (bilingual, 13%).
3.3.2 Dependent Variable

The dependent variable was teachers’ accuracy in predicting students’ ability to solve the two mathematics problems chosen from the PISA test (Prenzel et al., 2006). Teachers were asked to predict whether each of the randomly selected students would be able to solve each problem. These predictions were then compared with the student’s actual performance. Hence, the dependent variable was not students’ achievement, but the accuracy of teachers’ predictions of students’ achievement. We chose this combined outcome variable, because it gives a direct measure of teachers’ predictive accuracy. Teacher responses were coded as follows: When teachers overestimated student performance, predicting that a student who in fact failed to do so would solve the problem, responses were coded as +1. When teachers predicted student performance correctly, responses were coded as 0 (whether the student solved the problem correctly or not). Finally, when teachers underestimated student performance, predicting that a student who in fact gave the right answer would not solve the problem, responses were coded as -1. Consequently, values higher than 0 indicate overestimation, whereas values lower than 0 indicate underestimation of student performance. A value of 0 corresponds to a perfect match between the teacher’s predictions and the student’s actual performance. Because our hypotheses focused on teacher overestimation of student performance, we were specifically interested in values in the positive range between 0 and 1.

3.4 Analyses

3.4.1 Missing Data

All students were administered a mathematics assessment including the two focal mathematics problems and a sociodemographic questionnaire. Due to the rotation design implemented in PISA 2003, reading achievement data were available for only 54% of the students. Hence, reading achievement data are missing by design, while all other missing values are missing at random (MAR). Missing data represent a potentially serious methodological problem in any study for three reasons: loss of efficiency due to reduced sample size, biased estimations due to differences between observed and non-observed data, and difficulty dealing with the data because most standard statistical packages depend on complete data matrices (Peugh & Enders, 2004). There is growing consensus—especially in the case of missing by design or MAR—that imputation of missing observations is preferable to pairwise or listwise deletion (Schafer & Graham, 2002). We therefore used a multiple imputation method to estimate missing observations. This method produces several independent data sets taking estimation errors into account and can be used even when the proportion of missing
data is high (up to 50%, Graham, 2009). The auxiliary variables we used for the imputation procedure were students’ characteristics (e.g., immigration and language background, gender), SES, mathematics and reading achievement, cognitive ability, and other school-related variables. Using the NORM software (version 2.03, Schafer, 2000), we generated ten data sets in which all missing data were replaced with imputed values. All subsequent data analyses were applied to these ten datasets, which were then combined according to the procedure proposed by Rubin (1987).

3.4.2 Multilevel Modeling

Multilevel analyses assessed the effects of immigration and language background on the accuracy of teachers’ evaluations of students’ performance while controlling for students’ mathematical and reading achievement and SES. In most studies conducted in the school setting, student and classroom characteristics are confounded because students are not randomly assigned to groups. In our data set, students were not randomly assigned to teachers, and each teacher rated several students: Teachers (level 3) rated the performance of each student (level 2) on two mathematics problems (level 1). We used a three-level multilevel modeling approach to handle this data structure. The teacher level (level 3) was included to account for common variance, but no predictor was entered on this level. The student level (level 2) contained individual student characteristics such as mathematics and reading achievement (z-scores) and SES. Level 2 also included information on immigration and language background. For the analyses, we computed two dummies. The first (“monolingual dummy”) contrasted monolingual immigrant students ( = 1) with all other students ( = 0). The second (“bilingual dummy”) contrasted bilingual immigrant students ( = 1) with all other students ( = 0). Both dummy variables served as predictors for the accuracy of teachers’ evaluations of students’ performance. Because the reference category of the two dummy variables is always coded as 0, a positive regression coefficient for the dummy variables indicates an overestimation of the monolingual immigrant or bilingual immigrant students’ performance. At level 1, linguistic complexity of the problems was entered as a dummy, with low linguistic complexity as the reference category. Random-intercept models were estimated in which the intercepts on all three levels were allowed to vary randomly but with fixed effects for all predictor variables and cross-level interactions. The model specifications for each hypothesis are presented in the Appendix. The data were analyzed using the HLM 6.0 software (Raudenbush, Bryk, Cheong, & Congdon, 2004). Estimation problems were not encountered. The method of estimation applied for all models was full maximum likelihood, using an empirical Bayes algorithm. Hypotheses about fixed effects were tested. Because the
continuous nature of the data is debatable, we repeated our analyses with a binary outcome variable (student overestimated vs. student underestimated) using logistic regression (see Raudenbush & Bryk, 2002). Results were nearly identical. To avoid redundancy and to simplify the presentation and interpretation of results, we therefore present only the analyses using over- and underestimation simultaneously as the outcome variable.

Hypothesis 1 states that mathematics teachers do not overestimate the performance of bilingual immigrant students relative to that of monolingual immigrant or non-immigrant students in general. To test hypothesis 1, we examined the main effect of language and immigration background on the accuracy of teachers’ predictions.

Hypothesis 2 tests the interaction and states that mathematics teachers overestimate the performance of bilingual immigrant students on linguistically high problems. To test hypothesis 2, we examined the cross-level interaction between immigration and language background (level 2) and the complexity of the task (level 1).

3.5 Results

3.5.1 Descriptive Results

Table 3.1 shows the percentages of students who solved the problems correctly by linguistic complexity of the problem and student group (non-immigrant, monolingual immigrant, bilingual immigrant). In all cases, less than one-third of the students solved the problems correctly. For the linguistically simple problem, we found no performance differences between the student groups ($\chi^2(2, N = 2022) = 3.13, \text{ ns}$). For the linguistically high problem, we found a significant difference in student performance ($\chi^2(2, N = 2047) = 20.45, p < .001$), with the group of bilingual immigrant students showing a significantly lower percentage correct than the other two groups.

Table 3.1 also reports teachers’ predictions of student performance (percentage correct for all students). In all cases, teachers estimated that at least half of the students would solve the problems correctly. Teacher predictions were slightly higher for the linguistically high problem than for the linguistically simple one. However, teacher predictions did not differ significantly across the three student groups—for either the linguistically simple problem ($\chi^2(2, N = 2083) = 2.89, \text{ ns}$) or the linguistically high problem ($\chi^2(2, N = 1989) = 0.43, \text{ ns}$). In sum, Table 3.1 shows that bilingual immigrant students performed significantly worse on the linguistically high problem than the other two groups. However, this difference was not reflected in the teachers’ predictions.
Comparison of students’ actual performance and teachers’ predictions yielded the dependent variable shown in the last column of Table 3.1. Positive values indicate that teachers overestimated student performance. Teachers’ predictions differed significantly from 0 for both the linguistically simple problem \((t(2082) = 25.49, p < .001)\) and the linguistically high problem \((t(1988) = 28.76, p < .001)\), indicating that teachers generally tended to overestimate the performance of their students.

The accuracy of teachers’ evaluations of student performance on the two problems was positively correlated \((r = .024, p < .001, N = 1985)\); teachers who overestimated their students’ performance on one problem were more likely to overestimate performance on the other problem as well.

### Table 3.1

<table>
<thead>
<tr>
<th>Group</th>
<th>Student performance: Percentage correct</th>
<th>Teacher predictions: Teacher estimates of percentage correct for all students</th>
<th>Mean Accuracy of Teachers’ Predictions of Students’ Performance (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Linguistically simple problem</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-immigrant students</td>
<td>27%</td>
<td>58%</td>
<td>.32 (.58)</td>
</tr>
<tr>
<td>Monolingual immigrant students</td>
<td>23%</td>
<td>57%</td>
<td>.34 (.58)</td>
</tr>
<tr>
<td>Bilingual immigrant students</td>
<td>21%</td>
<td>51%</td>
<td>.31 (.56)</td>
</tr>
<tr>
<td><strong>Linguistically high problem</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-immigrant students</td>
<td>29%</td>
<td>66%</td>
<td>.37 (.62)</td>
</tr>
<tr>
<td>Monolingual immigrant students</td>
<td>23%</td>
<td>68%</td>
<td>.44 (.60)</td>
</tr>
<tr>
<td>Bilingual immigrant students</td>
<td>12%</td>
<td>66%</td>
<td>.53 (.54)</td>
</tr>
</tbody>
</table>

To test whether teachers overestimated the different student groups equally on both problems, we computed a 2 (linguistic complexity: high vs. low) x 3 (student groups: non-immigrant, monolingual immigrant, bilingual immigrant) ANOVA. Overall, there was no difference in the degree to which the teachers overestimated the three student groups, \(F(2,\)
1982) = 1.54, ns, but they did overestimate students’ performance on the linguistically high problem more strongly than their performance on the linguistically simple problem, $F(1, 1982) = 21.78, p < .001$. The interaction term was also significant, $F(2, 1982) = 4.21, p < .05$. As post hoc tests showed, the student groups did not differ for the linguistically simple problem, $F(2, 1982) = 0.56$, ns, but for the linguistically high problem, with teachers overestimating bilingual immigrant students’ performance on this problem significantly more strongly than they did the performance of the other two groups, $F(2, 1982) = 4.36, p < .01$. These analyses provide first support for our hypotheses, but do not take the multilevel structure of our data into consideration. Hence, in a next step, we used multilevel modeling, including control variables to the satisfy requirements of a ‘conditional neutrality’ approach.

As mentioned above, a ‘conditional neutrality’ approach to studying bias takes into account additional predictors that are relevant to the outcome (Ferguson, 2003). According to this approach, teachers should expect the same performances for students of different origins only if the students are comparable on relevant variables. If students are not comparable, the relevant variables should be controlled for. Hence, our analyses included variables that are related to performance on the mathematics problems and that differ across the three student groups.

Performance on the mathematics problems was significantly correlated with mathematical achievement, reading achievement, and SES (for the linguistically simple problem: .34, .23, .12; for the linguistically high problem: .38, .32, .18, respectively; all correlations $p < .001$). The differences between the correlations for the linguistically simple and the linguistically high problem were significant only for reading achievement, $t(1067) = -2.48, p < .01$, and SES, $t(1887) = -2.14, p < .05$, and not for mathematical achievement ($t < 2$).

The three student groups differed significantly on all three variables (mathematical achievement: $F(2, 2067) = 36.49, p < .001$; reading achievement: $F(2, 1119) = 34.51, p < .001$; SES: $F(2, 1980) = 42.02, p < .001$).

Non-immigrant students had the highest SES ($M = 52.46, SE_M = 0.40$), followed by monolingual immigrant students ($M = 46.84, SE_M = 1.00$), and bilingual immigrant students ($M = 40.92, SE_M = -1.46$). Post hoc tests showed that all differences were significant. Effect sizes as measured with Cohen’s $d$ for the comparisons are as follows: $d = 0.35$ (non-immigrant vs. monolingual immigrant students), $d = 0.71$ (non-immigrant vs. monolingual immigrant students), and $d = 0.36$ (monolingual vs. bilingual immigrant students).

The pattern of results for mathematical achievement was the same: non-immigrant students had the highest scores ($M = 0.01, SE_M = 0.02$), followed by monolingual immigrant
students \( (M = -0.26, SE_M = 0.07) \), and bilingual immigrant students \( (M = 0.67, SE_M = 0.09) \). Again, post hoc tests showed that all differences were significant (non-immigrant vs. monolingual immigrant students: \( d = 0.27 \), non-immigrant vs. monolingual immigrant students: \( d = 0.67 \), and monolingual vs. bilingual immigrant students: \( d = 0.38 \)).

Post hoc tests for reading achievement revealed a slightly different pattern. The best results in the reading test were achieved by non-immigrant \( (M = -0.02, SE_M = 0.03) \) and monolingual immigrant students \( (M = -0.20, SE_M = 0.09) \). The difference between these groups was not significant. Bilingual immigrant students performed significantly worse than these two groups \( (M = -1.00, SE_M = 0.13) \), non-immigrant vs. bilingual immigrant students: \( d = 0.91 \), monolingual vs. bilingual immigrant students: \( d = 0.72 \). In the multilevel analyses reported below, we controlled for all three variables: SES, mathematical achievement, and reading achievement.

3.6 Results From Multilevel Models

3.6.1 Hypothesis 1

Results for the first hypothesis are shown in the first column (Model 1) of Table 3.2. In Model 1, we tested whether immigration and language background influenced the accuracy of teachers’ predictions. More specifically, we compared prediction accuracy across the three student groups by regressing teachers’ prediction accuracy on language and immigration background, while controlling for mathematical achievement, reading achievement, and SES.

As indicated by the positive and significant intercept (see first row of Model 1), teachers generally overestimated the performance of their students. However, as predicted, there was no significant difference between overestimation of the performance of non-immigrant and immigrant students, and both group contrasts \( (\beta_{04k} \text{ and } \beta_{05k}, \text{ ns}) \) were not significant.

None of the three background variables (SES, mathematical achievement, reading achievement) were significant. At first sight, this result seems incongruent with the influence of the three variables on students’ actual performance. However, the three background variables were only related to students’ performance (percentage correct) and not to teachers’ prediction accuracy.

Hence, the results do support the hypothesis that the accuracy of teachers’ predictions do not differ between students with and without immigrant background in general. However, in the next step, we tested whether this pattern persisted when we controlled for the linguistic complexity of the problem. Hence, in hypothesis 2, we tested whether the interaction between
students’ language and immigration background and the linguistic demands of the problem affected the accuracy of teachers’ evaluations.

**Table 3.2**

Results From Multilevel Analyses Predicting Teachers’ Evaluation Accuracy

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Model 1</th>
<th></th>
<th>Model 2</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Level 1 predictors</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intercept ($\pi_{0jk}$)</td>
<td>.351*</td>
<td>.014</td>
<td>.330*</td>
<td>.017</td>
</tr>
<tr>
<td>Linguistic complexity ($E_{ijk}$)</td>
<td></td>
<td></td>
<td>.043*</td>
<td>.018</td>
</tr>
<tr>
<td><strong>Level 2 predictors</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Student group</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Monolingual immigrant students ($\beta_{00k}$)</td>
<td>.035</td>
<td>.033</td>
<td>-.013</td>
<td>.043</td>
</tr>
<tr>
<td>Bilingual immigrant students ($\beta_{00k}$)</td>
<td>.051</td>
<td>.041</td>
<td>-.035</td>
<td>.053</td>
</tr>
<tr>
<td><strong>Cross-level interactions</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Monolingual immigrants*complexity</td>
<td></td>
<td>.096</td>
<td>.057</td>
<td></td>
</tr>
<tr>
<td>Bilinguals immigrants*complexity</td>
<td></td>
<td>.172*</td>
<td>.064</td>
<td></td>
</tr>
<tr>
<td><strong>Background model</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SES ($\beta_{00k}$)</td>
<td>-.001</td>
<td>.001</td>
<td>-.001</td>
<td>.001</td>
</tr>
<tr>
<td>Mathematics achievement ($\beta_{00k}$)</td>
<td>.01</td>
<td>.013</td>
<td>.010</td>
<td>.013</td>
</tr>
<tr>
<td>Reading achievement ($\beta_{00k}$)</td>
<td>.019</td>
<td>.014</td>
<td>.019</td>
<td>.014</td>
</tr>
<tr>
<td><strong>Variance estimates</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Level-1 variance</td>
<td>.267</td>
<td></td>
<td>.267</td>
<td></td>
</tr>
<tr>
<td>Level-2 variance</td>
<td>.064</td>
<td></td>
<td>.065</td>
<td></td>
</tr>
<tr>
<td>Level-3 variance</td>
<td>.020</td>
<td></td>
<td>.020</td>
<td></td>
</tr>
</tbody>
</table>

*Note.* The level-1 intercept represents the average overestimation for non-immigrant students. The problem variable is dummy coded (0 = low linguistic complexity); SES, mathematics, and reading achievement are grand mean centered. The monolingual dummy is coded 1 for monolingual immigrant students; the bilingual dummy is coded 1 for bilingual immigrant students. * $p < .05.$
3.6.2 Hypothesis 2

Results for the second hypothesis are presented in the second column (Model 2) of Table 3.2. In Model 2, we tested whether teachers overestimated the performance of bilingual immigrant students only on linguistically high problems. In addition to the variables entered in Model 1, Model 2 included the linguistic complexity of the problem (level 1) and the interaction between linguistic complexity and students’ immigration and language background (cross-level interaction). As in Model 1, results show that teachers generally overestimated the performance of their students. Model 2 further shows a significant main effect of the linguistic complexity of the problem ($\pi_{1jk}$): Teachers were more likely to overestimate students’ performance on the linguistically high problem. Most importantly, and confirming our hypothesis, a significant cross-level interaction between immigration and language background and linguistic complexity of the problem was observed.

Figure 3.3

Net overestimation of teachers’ evaluations of students’ performance on the two mathematics problems by student group. Low: linguistically low mathematics problem (kite problem); High: linguistically high mathematics problem (percentage problem). Error bars indicate standard error. The means for the monolingual immigrant and bilingual immigrant students were calculated by adding the regression coefficients of the respective dummy to the coefficients of the non-immigrant students (intercept) and the linguistically high problem.

Figure 3.3 illustrates this interaction by presenting the means of each group: For the linguistically high problem, overestimation was least pronounced for non-immigrant students ($M = 0.373$, $SE_M = 0.02$), followed by monolingual immigrant students ($M = 0.469$, $SE_M = 0.15$), and most pronounced for bilingual immigrant students ($M = 0.545$, $SE_M = 0.06$).
For the linguistically simple problem, in contrast, there were no significant differences between the three student groups ($\beta_{04k}$ and $\beta_{05k}$, ns). As in Model 1, none of the background variables were significant. In other words, mathematical achievement, reading achievement, and SES did not influence the accuracy of teachers’ predictions. In sum, on the linguistically high problem, teachers overestimated the performance of bilingual immigrant students relative to that of non-immigrant students.

### 3.7 Discussion

#### 3.7.1 Summary

Do teachers evaluate the performance of immigrant students less accurately than that of non-immigrant students? To address this question, we analyzed mathematics teachers’ predictions of their students’ performance on two mathematics problems and compared these evaluations with the students’ actual performance. Data were provided by the COACTIV study, which was embedded in the 2003 cycle of the PISA assessment in Germany.

In multilevel analyses, we tested the hypothesis that teachers systematically overestimate the performance of immigrant students relative to that of non-immigrant students. Our findings suggest that it is not ethnic background per se that affects the accuracy of teachers’ predictions, but the interaction of students’ ethnic and language background with the linguistic demands of the mathematics problem to be solved. Results showed that teachers tended to overestimate the performance of all students, as reported in previous studies (Anders, Kunter, Brunner, Krauss, & Baumert, in press). Overall, we found no specific effect of immigration or language background. However, once we considered the linguistic features of the problems, we observed an interaction between students’ immigration and language background and the linguistic complexity of the task. Results showed that teachers were significantly more likely to overestimate the performance of bilingual immigrant students on a linguistically high problem, even when we controlled for mathematical achievement, reading achievement, and SES. These results are consistent with the idea that teachers are not always aware of bilingual students’ language difficulties or of the linguistic demands that specific mathematics problems may pose.

#### 3.7.2 Limitations

Unfortunately, our data do not allow us to determine whether teachers took the differing linguistic demands of the problems and the language background of the students into account when predicting students’ performance. Hence, we can only speculate that teachers overestimated the performance of bilingual immigrant students on the linguistically high
problem because they did not recognize the language difficulties involved. Based on their study on the accuracy of teacher assessments of second-language students at risk for reading disability, Limbos and Geva (2001) concluded that teachers may “inappropriately use oral language proficiency as their gauge for the child’s overall academic performance” (p. 149) As has also been suggested by other researchers, good oral language skills of bilingual students may mask potential language problems in the academic domain (Cummins, 2002).

Due to small group sample size, our data also do not allow us to compare the accuracy of teacher predictions for students from different countries of origin. However, it is possible that teachers’ predictions of the performance of students with an European background differ from those for students with a non-European background. Further research should investigate this more closely. The data did also not provide equal distribution of teacher evaluations for each of the three student groups, and some teachers evaluated only German or monolingual immigrant students. While unavoidable when using real-life data sets, this procedure might affect teachers’ reference categories and thereby influencing their predictions for the individual student. However, because teachers were not asked to evaluate their students’ performance relative to that of other students, their predictions should be independent.

Another limitation of the present study is that we focused on just two mathematics problems from different mathematical fields. However, both problems exhibited curricular validity and pertained to mathematical fields that the students had covered in school. Although for the students the percent correct of the problems did not differ, teacher estimates of percent correct were higher for the linguistically high problem. That is, teachers predicted that students rather solve the linguistically high than the linguistically low problem. It is conceivable that teachers found the linguistically high problem to be mathematical less complex and focused only on mathematical reasoning instead of taking linguistic complexity into account when making their prediction. This interpretation is supported by the PISA expert ratings that classified the linguistically high problem as requiring less ‘inner-mathematical’ reasoning. To be able to generalize the results and disentangle the effects of mathematical and linguistic complexity, future analyses should be based on a broader range of items. Disentangling the effects of mathematical and non-mathematical content (e.g., language complexity) can help researchers to gain a better understanding of differences in the performance of specific student groups. Findings showing that performance differences are not solely attributable to differences in student ability, but that certain item characteristics discriminate against specific students groups, would have major implications for research and practice.
Based on their differential item functioning (DIF) analyses of items from standardized mathematics tests administered in three U.S. states, Wolf, Herman, et al. (2008) have concluded that the language demands of test items is one of the factors contributing to the achievement gap between language minority and majority students. To our knowledge, the performance of language minority and majority students on standardized tests in Germany has not yet been compared. A first step was taken by PISA 2003. Items from the PISA test suggest that problems from some areas of the natural sciences contain more linguistic features than do problems from other areas (e.g. problems with graphs). However, first analyses do not show that immigrant students perform systematically worse on items with more linguistic features (Ramm, Prenzel, Heidemeier, & Walter, 2004). Yet, more systematic analyses are necessary to come to a final conclusion.

We have argued that the problems examined in the present study differed with respect to their linguistic complexity; however, we did not assess students’ or teachers’ perceptions of linguistic complexity. Instead, we obtained ratings of linguistic features from experts in mathematics and education. Although it is possible that student and teacher subjective appraisals differ from our expert ratings, previous research indicates that linguistic features influence the difficulty of mathematics problems. It has been shown that word problems are more difficult to solve than are mathematics problems presented in numeric format, and that the percentage correct is higher when problems contain less academic language (Abedi & Lord, 2001). Bilingual students, in particular, seem to perform better when the linguistic complexity of mathematics problems is reduced (Abedi & Lord, 2001). These results support our finding that student reading literacy affects performance on mathematical word problems. We thus controlled for student reading achievement in all multilevel analyses predicting teachers’ prediction accuracy.

3.7.3 Strengths

A major advantage of the present study is that it examined the accuracy of teacher predictions in a real-life (classroom) situation in which teachers knew their students well. Previous research has shown that teachers who have little knowledge about the students they are asked to evaluate rely on biasing information (Guttmann & Bar-Tal, 1982). Hence, investigating bias in a naturalistic setting strengthens the ecological validity of the findings. Another advantage is that the assessment was embedded in the national component of the PISA study and could therefore draw on a large and representative students sample with high response rates.
The approach we have taken to investigate general bias in teachers’ evaluations has been termed ‘conditional neutrality’ (Ferguson, 2003). According to this approach, teachers should expect the same performances for students of different origins only if the students’ competences and test scores are comparable. Hence, neutrality is conditioned on observable and measurable criteria. We were able to control for mathematical achievement, reading achievement, and SES while testing for a general overestimation of immigration and language background. We operationalized immigration background in terms of the parents’ and child’s place of birth and included information on the language spoken at home. We were thus able to differentiate between monolingual immigrant students (who have at least one foreign-born parent but speak German at home) and bilingual immigrant students. But our analyses moved beyond testing for a general overestimation of immigrant students. Our study shifts the focus from investigating general bias and instead examines the specific student – task interactions that affect teachers’ predictive accuracy. Future studies should continue to investigate such interplays, how it affects teachers, and how teachers can be sensitized for such interactions.

3.7.4 Implications
The findings presented have several implications. First and foremost, our results do not support the claim made elsewhere that teachers have lower expectations for immigrant students. On the contrary, teachers even overestimated their performance. While this may sound as good news, overestimation might impede effective teaching just as much as underestimation as we will discuss below.

Secondly, the results again highlight the importance of proficiency in the language of instruction. Most studies to date have examined the direct role of proficiency in the language of instruction for academic outcomes. Clearly, students who do not speak the language of instruction will not be able to follow, to participate in, or to benefit from lessons.

Going beyond this, our study shows that language proficiency can also influence academic success more indirectly: namely via its impact on teachers’ evaluations. Our results suggest that mathematics teachers ignore the interplay between linguistic complexity of mathematical problems and linguistic background, leading to less accurate predications of the performance of bilingual immigrant students. However, predicting student performance is an integral part of teachers’ daily professional lives (Demaray & Elliot, 1998; Hoge & Butcher, 1984) and the ability to make accurate predictions is an important aspect of teaching skills. It enables teachers to adapt their lessons to students’ needs, to choose appropriate teaching materials and assessment tools, and to provide effective learning opportunities (cp. Anders et al., in press; Edelenbos & Kubanek-German, 2004).
Inaccurate evaluations, in turn, interfere with all of the above-mentioned processes and can thus impede students’ learning progress (for mathematics, cp. Anders et al., 2010). Accurately evaluating what students understand and where their deficits are during the learning process can be seen as the basis for adaptive teaching (Baumert & Kunter, 2006).

In one of the few studies investigating the effects of judgment accuracy of teachers on student achievement, Helmke & Schrader (1987) showed that high judgment accuracy combined with – and only if combined with - appropriate instructional techniques were particularly favorable for classroom growth of achievement. The authors argue that “diagnostic sensitivity, therefore, can be regarded as a necessary precondition for the successful use of structuring cues.” (p. 96) At the same time, high judgment accuracy was negatively related to growth of achievement when individual support was not provided by the teacher. While these results applied for all students, they might be especially relevant when considering implications of our findings for bilingual immigrant students. If quality of instruction is influence by the diagnostic sensitivity of teachers (Helmke & Schrader, 1987, p. 97), it is problematic when the diagnostic sensitivity systematically differs for different students groups. Although our data do not allow conclusions about the individual support that teachers supply for their students, an overestimation of bilingual students’ performance could result in less support for that particular group. More research is still necessary to investigate implications of diagnostic accuracy on the learning progress of students.

International large-scale assessments have documented an academic achievement gap between majority and minority students, especially in Germany (Stanat & Christensen, 2006). Educational and social scientists have investigated several potential causes of this ethnic achievement gap, such as differences in allocation of resources (including financial, cultural, and social capital), and differences in aspirations related to education; however, the role of teachers and how they evaluate students of different origins remains an important issue.

Previous research has focused on potential bias in teachers’ expectations, assessments, beliefs, and behavior. In this article, however, we have argued that teachers may have difficulty to accurately evaluate, and thus appropriately support, minority students’ performance because they fail to recognize these students’ language difficulties. Another implication we can draw is thus that teachers need to be trained to assess the linguistic complexity of their teaching materials and to recognize their students’ language problems (especially where bilingual students are concerned). As our study shows, this does not apply solely to teachers of language arts. Accurate evaluations of what students know and where they need special assistance are vital for improving the quality of instruction. Chang (2008)
has argued that improving the quality of classroom practice will lead to better cognitive outcomes, especially for language minority students. Her research has revealed that teacher-directed whole-class activities pose problems for language minority students. One reason for this finding may be that such activities do not give teachers the opportunity to obtain feedback on the accuracy of their evaluations and to learn more about their students’ individual problems (e.g., language or comprehension problems). If teachers fail to identify students’ learning problems, however, those students will fall behind. In the case of students with immigration background, this is clearly already happening – not only in Germany.
3.8 References


### Appendix A1: Equations for Models 1 and 2.

#### Equations for model 1

<table>
<thead>
<tr>
<th>Level</th>
<th>Model</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level 1:</td>
<td>( Y_{ijk} = \pi_{0jk} + e_{ijk} )</td>
<td>(Level 1)</td>
</tr>
<tr>
<td>Level 2:</td>
<td>( \pi_{0jk} = \beta_{00k} + \beta_{01k} X_{1jk} + \beta_{02k} X_{2jk} + \beta_{03k} X_{3jk} + \beta_{04k} X_{4jk} + \beta_{05k} X_{5jk} + r_{0jk} )</td>
<td>(Model for level-1 intercept parameter plus random component)</td>
</tr>
<tr>
<td>Level 3:</td>
<td>( \beta_{00k} = \gamma_{000} + u_{00k} )</td>
<td>(Model for level-2 intercept parameter plus random component)</td>
</tr>
<tr>
<td></td>
<td>( \beta_{01k} = \gamma_{010} )</td>
<td>(Model for level-2 slope parameter)</td>
</tr>
<tr>
<td></td>
<td>( \beta_{02k} = \gamma_{020} )</td>
<td>(Model for level-2 slope parameter)</td>
</tr>
<tr>
<td></td>
<td>( \beta_{03k} = \gamma_{030} )</td>
<td>(Model for level-2 slope parameter)</td>
</tr>
<tr>
<td></td>
<td>( \beta_{04k} = \gamma_{040} )</td>
<td>(Model for level-2 slope parameter)</td>
</tr>
<tr>
<td></td>
<td>( \beta_{05k} = \gamma_{050} )</td>
<td>(Model for level-2 slope parameter)</td>
</tr>
</tbody>
</table>

#### Equations for model 2

<table>
<thead>
<tr>
<th>Level</th>
<th>Model</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level 1:</td>
<td>( Y_{ijk} = \pi_{0jk} + \pi_{1jk} E_{1ijk} + e_{ijk} )</td>
<td>(Level 1)</td>
</tr>
<tr>
<td>Level 2:</td>
<td>( \pi_{0jk} = \beta_{00k} + \beta_{01k} X_{1jk} + \beta_{02k} X_{2jk} + \beta_{03k} X_{3jk} + \beta_{04k} X_{4jk} + \beta_{05k} X_{5jk} + r_{0} )</td>
<td>(Model for level-1 intercept parameter plus random component)</td>
</tr>
<tr>
<td></td>
<td>( \pi_{1jk} = \beta_{10k} + \beta_{11k} X_{4jk} + \beta_{12k} X_{5jk} + r_{0} )</td>
<td>(Model for level-1 slope parameter plus random component)</td>
</tr>
<tr>
<td>Level 3:</td>
<td>( \beta_{00k} = \gamma_{000} + u_{00} )</td>
<td>(Model for level-2 slope parameter plus random component)</td>
</tr>
<tr>
<td></td>
<td>( \beta_{01k} = \gamma_{010} )</td>
<td>(Model for level-2 slope parameter)</td>
</tr>
<tr>
<td></td>
<td>( \beta_{02k} = \gamma_{020} )</td>
<td>(Model for level-2 slope parameter)</td>
</tr>
<tr>
<td></td>
<td>( \beta_{03k} = \gamma_{030} )</td>
<td>(Model for level-2 slope parameter)</td>
</tr>
<tr>
<td></td>
<td>( \beta_{04k} = \gamma_{040} )</td>
<td>(Model for level-2 slope parameter)</td>
</tr>
<tr>
<td></td>
<td>( \beta_{05k} = \gamma_{050} )</td>
<td>(Model for level-2 slope parameter)</td>
</tr>
<tr>
<td></td>
<td>( \beta_{10k} = \gamma_{100} )</td>
<td>(Model for cross-level interaction)</td>
</tr>
<tr>
<td></td>
<td>( \beta_{11k} = \gamma_{110} )</td>
<td>(Model for cross-level interaction)</td>
</tr>
<tr>
<td></td>
<td>( \beta_{12k} = \gamma_{120} )</td>
<td>(Model for cross-level interaction)</td>
</tr>
</tbody>
</table>

#### Criterion and predictor variables:

- \( Y_{ijk} \): Criterion; teachers’ overestimation of students’ performance for word problem i and student j in classroom k
- \( E_{1ijk} \): Level-1 predictor; linguistic complexity of problem for student j in classroom k (dummy coded: 0 = linguistically simple, 1 = linguistically high)
- \( X_{1jk} \): Level-2 predictor; socioeconomic background of student j in classroom k
- \( X_{2jk} \): Level-2 predictor; mathematical achievement of student j in classroom k
- \( X_{3jk} \): Level-2 predictor; reading achievement of student j in classroom k
- \( X_{4jk} \): Level-2 predictor; immigration background of student j in classroom k (monolingual dummy; 1 = monolingual immigrant students)
- \( X_{5jk} \): Level-2 predictor; language background of student j in classroom k (bilingual dummy; 1 = bilingual immigrant students)
Teilstudie 2: Assessing Teachers’ Multicultural and Egalitarian Beliefs: The Teacher Cultural Beliefs Scale

Notice: This is the authors’ version of a work that was published in Teaching and Teacher Education:

http://dx.doi.org/10.1016/j.tate.2011.04.006
Abstract
The article describes the newly developed Teacher Cultural Beliefs Scale (TCBS). The TCBS assesses multicultural and egalitarian beliefs about diversity, both of which reflect favorable attitudes toward immigrant students, but differ with regard to how cultural diversity is believed to be best accommodated in schools. Results from a first study with 433 beginning teachers supported the two-factor structure and the measurement invariance of the scale. Results from a second study with 340 teacher candidates and educational science students showed that proponents of multiculturalism and egalitarianism shared a motivation to control prejudiced reactions, but that they differed in their views on acculturation, prejudices, and authoritarianism.

Keywords: multiculturalism, color-blindness, beginning teachers, teacher beliefs, immigrant students
4 Assessing Teachers’ Multicultural and Egalitarian Beliefs: The Teacher Cultural Beliefs Scale

4.1 Introduction

Schools in most Western countries have become increasingly culturally diverse over recent decades; and as global migration continues to rise, cultural diversity in schools will continue to grow worldwide (UNESCO, 2004). At the same time, large-scale assessments such as PISA have repeatedly shown that immigrant students’ school achievement lags behind that of majority students in many of the participating countries—but especially in Germany (see Stanat & Christensen, 2006, for OECD and partner countries). It has been claimed that schools fail to address the needs of immigrant students, and that catering to these needs is among today’s major educational challenges (Vedder, Horenczyk, & Liebkind, 2006). This challenge cannot be met by top-down educational reforms alone, however. Instead, all educational actors will need to work together to address it. Given their central role in educational practice worldwide, teachers have a key function in this process. However, little is yet known about teachers’ attitudes, views, and beliefs about cultural diversity in schools (Vedder et al., 2006).

This article presents the Teacher Cultural Beliefs Scale (TCBS), which we have developed to assess teachers’ beliefs about dealing with cultural diversity in the classroom. Informed by social-psychological research on intergroup contact, the TCBS focuses on two beliefs: multiculturalism and egalitarianism. This article tests the measurement model of the TCBS in different samples (study 1) and examines the construct validity of its two subscales of multiculturalism and egalitarianism (study 2). Both studies were conducted in Germany. However, we drew on international research to formulate our hypotheses and argue that the key question of how today’s teachers are responding to and dealing with increasing cultural diversity is of crucial relevance for schools around the globe. Accordingly, finding ways to access teachers’ beliefs about cultural diversity in schools is a precondition for “the transformation required for teachers to implement appropriate education” in culturally diverse settings (Harrington & Hathaway, 1995, p. 275).

4.2 Teachers’ beliefs

Through structuring the learning environment, teachers play a pivotal role in student learning. A large body of evidence from various countries shows that teachers’ beliefs significantly influence how they plan, organize, and implement their lessons and how responsive they are to their students (e.g., Staub & Stern, 2002; Stipek, Givvin, Salmon, &
MacGyvers, 2001). Much of this research has focused on teachers’ beliefs about learning and instructing (Woolley, Benjamin, & Woolley, 2004), which have also been shown to affect students’ learning outcomes (Dubberke, Kuner, McElvany, Brunner, & Baumert, 2008; Staub & Stern, 2002).

Although it has been argued that beliefs also play a fundamental role in how teachers encounter diversity in the classroom (Harrington & Hathaway, 1995), most research on teaching effectiveness to date has been ‘color-blind’ (Zeichner, 1992). Consequently, very little is known about teachers’ beliefs about cultural diversity or about how those beliefs affect immigrant students. Most research in this domain has focused on the effects of prejudices and discrimination on immigrant students’ achievement (Schofield, 2006). Unsurprisingly, the empirical findings support the common knowledge that “a […] favourable attitude […] contributes to the development and learning of immigrant youth” (Vedder et al., 2006, p. 10). However, as we discuss below, social-psychological research on intergroup relations suggests that different ‘favorable’ beliefs can be distinguished and may have differing implications for social interaction. Two such distinguishable beliefs are multiculturalism and egalitarianism.

In social psychology, these beliefs are often referred to as ideologies; in educational psychology, in contrast, the term ‘beliefs’ is used to describe “suppositions, commitments, and ideologies” (Calderhead, 1996). In line with educational research, we use the term ‘beliefs’ to refer to attitudes, views, ideologies, or models that teachers hold about students with a different cultural background from their own. Multicultural and egalitarian beliefs both reflect positive attitudes toward immigration; however, proponents of multiculturalism and proponents of egalitarianism differ in how they encounter, interpret, and respond to diversity:

*Multicultural beliefs* recognize that, because individuals have engaged with different socio-cultural contexts, they have legitimately different perspectives and beliefs. These differences are seen as difficult—if not impossible—to ignore (Park & Judd, 2005). Proponents of multiculturalism believe that these intercultural differences should be embraced and viewed as enriching. In the educational context, teachers with multicultural beliefs can be expected to incorporate students’ different cultures into everyday school practice when planning their lessons, choosing materials, and interacting with students in class.

*Egalitarian beliefs* emphasize the importance of treating all people equally. This implies finding similarities and common grounds between students of different ethnic and cultural backgrounds, regardless of their ethnic or cultural background (Markus, Steele, & Steele, 2002; Richeson & Nussbaum, 2004; Wolsko, Park, & Judd, 2002). In line with a ‘color-blind’
ideal, proponents of egalitarianism often argue that categorization on the basis of ethnicity or culture is one of the sources of discrimination (Park & Judd, 2005) and that it should be avoided (Richeson & Nussbaum, 2004). In the educational context, teachers with strong egalitarian beliefs pay less attention to the cultural backgrounds of their students, focusing instead on their similarities and seeking to treat all students equally. As a consequence, they can be expected to favor a common curriculum and to give students’ cultural background less consideration in their lesson planning.

These two beliefs are not mutually exclusive (Plaut, 2010); in fact, they are conceptually independent. For example, a teacher may hold egalitarian beliefs to some degree, but at the same time try to accommodate cultural differences. However, as outlined above, social-psychological research suggests that the two beliefs have different implications for intergroup contact and that they should be distinguished. Although the requisite empirical data from educational research are not yet available, it seems likely that the two beliefs also have different implications for instruction.

Various authors in the field of social psychology have discussed the benefits and drawbacks of the two beliefs; however, these studies have not targeted teachers (Markus et al., 2002; Park & Judd, 2005; Plaut, Thomas, & Goren, 2009; Richeson & Nussbaum, 2004; Verkuyten, 2005; Vorauer, Gagnon, & Sasaki, 2009; Wolsko et al., 2002; Wolsko, Park, & Judd, 2006; Wolsko, Park, Judd, & Wittenbrink, 2000). It should also be noted that what we describe as ‘egalitarian’ beliefs are termed ‘color-blindness’ in most social psychological publications. Given the conceptual ambiguities of the term ‘color-blindness’ when applied to an educational context and its ties to U.S. history, however, we prefer to use the broader term ‘egalitarianism’ (see Park & Judd, 2005; Wolsko et al., 2002). This term can be applied to any cultural setting, independently of a country’s immigration history. We do, however, draw on findings from color-blindness research to guide our hypotheses.

Various lines of research have highlighted important differences between multiculturalism and egalitarianism or color-blindness (for an overview, see Park & Judd, 2005). Most importantly in the present context, multicultural perspectives have been shown to lead to a more outward focus in interethnic interactions (Vorauer et al., 2009), to more empathy (Burkard & Knox, 2004), and to a stronger perception and acceptance of differences between people (Wolsko et al., 2000). Treating all people equally, regardless of their cultural background, seems worthwhile for its own sake. However, research findings suggest that egalitarian or color-blind perspectives can induce a prevention orientation in interethnic encounters (Vorauer et al., 2009), which can in turn lead to more negative implicit attitudes
toward minority members in high-conflict situations (Correll, Park, Judd, & Wittenbrink, 2002). Research has also shown that egalitarianism or color-blindness can reduce in-group positivity and be associated with decreased levels of expressed stereotypicality (Wolsko et al., 2000).

Two hypotheses can be formulated on the basis of previous research. First, the findings suggest that multicultural and egalitarian beliefs may also be important for instruction: An open, empathetic, and student-oriented attitude is crucial for positive teacher–student interactions. Moreover, the accurate and prejudice-free assessment of students’ strengths and weaknesses is a necessary condition for providing each student with the optimal support. However, due to the lack of empirical evidence, it remains unclear whether multicultural or egalitarian beliefs are more beneficial for immigrant students. Research on teacher beliefs has been hampered by the lack of instruments assessing these beliefs in an educational context.

Second, the empirical data indicate that the two beliefs need to be assessed separately. Although several attempts have been made to assess teachers’ cultural beliefs by means of questionnaire measures (Amodeo & Martin, 1982; Barry & Lechner, 1995; Easter, Shultz, Neyhart, & Reck, 1999; Pohan & Aguilar, 2001; Stanley, 1996; Tabachnick & Zeichner, 1984), none of the instruments applied to date in educational research have explicitly assessed multicultural and egalitarian beliefs side by side. Two scales that have been validated and applied in studies with teachers are the Personal and Professional Beliefs About Diversity Scale by Pohan and Aguilar (2001) and the Pluralism and Diversity Attitudes Assessment (PADAA) by Stanley (1996). These scales measure appreciation of diversity, rather than distinguishing between different favorable beliefs. Additionally, they take a broader approach to diversity, including items on social class, gender, religion, sexual orientation, and language (other than English), as well as on ethnicity and race. Both scales have proven useful for investigating general attitudes toward diversity and for studying the effects of multicultural education programs on participants’ attitudes. However, they neither explicitly assess multicultural or egalitarian beliefs nor—more generally—distinguish between different favorable attitudes. Against this background, we developed the TCBS to assess teachers’ multicultural and egalitarian beliefs about cultural diversity in school. The development of this instrument is a first step toward a better understanding of how teachers are responding to and dealing with the increasing cultural heterogeneity of their classrooms. We hope that this enhanced understanding will ultimately contribute to improving the learning outcomes of immigrant students.
Most research conducted to date on teachers’ perceptions of diversity has involved small-sample qualitative studies. There have recently been calls for validated quantitative instruments that can be applied in large-sample studies (Cardona Moltó, 2010; for an overview of studies in the educational context, see, e.g., Castro, 2010 and the report of the AERA Panel on Research and Teacher Education edited by Cochran-Smith & Zeichner, 2005). The TCBS was developed with the explicit goal of providing a validated instrument that can be easily implemented in studies of various sample sizes. However, as we discuss in the General Discussion, quantitative methods are not without limitations. Before presenting our empirical studies in detail, we first describe the development of the TCBS and specify the aims and research questions of the two studies.

4.3 The Teacher Cultural Beliefs Scale

We used a multi-step procedure to develop items tapping multicultural and egalitarian beliefs items, beginning by reviewing the definitions of the constructs and screening previous social-psychological research for existing items (Park & Judd, 2005; Wolsko et al., 2002; Wolsko et al., 2000). The multiculturalism subscale was designed to measure how strongly participants endorse the belief that the cultural background of students and their parents should be taken into consideration in teaching. Based on this definition, we modified the wording of existing items (Wolsko et al., 2002) to target schools or instruction rather than society in general and developed additional items. The egalitarianism subscale was designed to measure how strongly participants focus on cultural similarities and endorse the belief that all students should be treated equally, regardless of their cultural background. Because our approach emphasized a focus on similarities rather than a disregard of cultural differences (as often is the case for color-blindness), we did not adapt existing items assessing disregard of cultural differences, but developed new items in line with our definition of the construct. The 16 items emerging from this procedure were discussed with several independent experts in social psychology (with a focus on cultural beliefs) and educational science in the United States and Germany. In response to these experts’ comments, we dropped two items from the multiculturalism subscale that dealt with interethnic contact and conflicts (e.g., “Schools also serve the purpose of facilitating interethnic contact”) and four items from the egalitarianism subscale that lacked a focus on similarities (e.g., “Cultural differences should not be brought up in class instruction”), leaving a final set of 10 items. The expert comments also prompted minor changes in the wording of some of these items.
4.4 Aims and research questions

4.4.1 Study 1

The purpose of study 1 was twofold. First, it sought to test the measurement model, factor structure, and reliabilities of the newly developed instrument. In social-psychological research, multiculturalism and egalitarianism are conceptualized as two independent constructs, both of which reflect favorable attitudes toward minorities. Hence, we expected that a two-factor solution would provide the best fit to the data, but also that confirmatory factor analyses would show a positive correlation between the two factors. Second, as an aspect of factorial validity, study 1 compared the measurement model across groups of beginning teachers with different degrees of experience of cultural diversity. Previous research has shown that individuals’ experiences of cultural diversity affect their cultural beliefs, and several studies have highlighted the importance of classroom experience for (beginning) teachers’ beliefs and attitudes about cultural diversity (for an overview, see Castro, 2010). In constructing the TCBS, we aimed to develop an instrument that could be used to compare the beliefs of teachers with varying degrees of cultural experience. We therefore tested the measurement model in different samples, testing for (a) measurement invariance and (b) mean differences. Measurement invariance across groups is often regarded as a prerequisite for the comparison of group means (Brown, 2006). Although we did not expect different factor structures across groups, there is reason to hypothesize that teachers with varying degrees of cultural experience differ in their support of multiculturalism and egalitarianism. As a first proxy for cultural experience in the school context, we therefore compared beginning teachers at the start and in their second year of the teacher placement phase (the samples are described in more detail in the Method section of study 1). The longitudinal findings of Bender-Szymanski (2000) suggest that beginning teachers’ endorsement of multicultural beliefs decreases significantly during the first year of teaching. At the same time, Castro (2010) has pointed out that the younger generation of beginning teachers is generally more multicultural and that higher endorsement of multicultural beliefs among younger beginning teachers may be a cohort effect. Given these results, we expected teachers in their first and second year of classroom teaching to differ in their endorsement of multiculturalism. Because we could not draw on any prior research about beginning teachers’ endorsement of egalitarianism, we did not formulate specific hypotheses about group differences in egalitarianism.

The second proxy for differing exposure to cultural diversity was school track. Especially in the United States, studies often compare urban with suburban schools. For the German
context, however, we reasoned that the school track would be a better proxy for cultural diversity than the location of the school. The German secondary system differentiates college-track schools, which qualify students for university admission, from vocational-track schools. The percentage of immigrant students is considerably higher in vocational-track schools, meaning that teachers in this track gain more experience interacting with culturally diverse students than do teachers in college-track schools. This higher level of intercultural interaction may lead to greater acceptance and appreciation of cultural diversity (Castro, 2010) and hence to higher endorsement of multicultural beliefs. At the same time, teachers starting their career at a vocational-track school may learn that a focus on similarities is not feasible in a culturally diverse school setting, leading to lower endorsement of egalitarian views. In sum, we expected to find mean differences between beginning teachers in college-track and vocational-track schools. Again, in order to be able to compare mean differences, we first aimed at establishing measurement invariance.

Finally, we compared mean differences in the endorsement of multicultural and egalitarian beliefs between beginning teachers with and without an immigrant background. Previous research suggests that people from an immigrant or minority background are more likely to endorse multicultural beliefs than are people from the majority culture (for the Netherlands, see van de Vijver, Breugelmans, & Schalk-Soeke, 2008; for the United States, see Wolsko et al., 2006). We expected similar results for our sample of beginning teachers. In turn, we expected participants without an immigrant background to support egalitarian beliefs more strongly than participants with an immigrant background.

4.4.2 Study 2

Study 2 was conducted to test the construct validity of the two subscales of the TCBS. As discussed above, multiculturalism and egalitarianism are two distinct beliefs that both reflect favorable attitudes toward immigrant students, but differ with regard to how cultural diversity is perceived and believed to be best accommodated in schools. Whereas multicultural beliefs stress accommodating and respecting students’ backgrounds, egalitarian beliefs emphasize similarities and equal treatment of all students. We expected that these differences would also be reflected in the relationship of the constructs with (a) prejudices and the motivation to control prejudiced behavior, (b) attitudes toward pluralism and acculturation, and (c) authoritarianism as one aspect of teaching style. Whereas multiculturalism and egalitarianism can both be expected to be associated with the motivation to control prejudiced behavior and with positive attitudes toward diversity, we expected proponents of the two beliefs to differ with regard to their attitudes toward acculturation and their endorsement of authoritarianism.
We outline the hypotheses that guided our choice of measures in more detail in our presentation of study 2.

4.5 Study 1

4.5.1 Method

4.5.1.1 Participants and procedure

Participants (N = 433) were beginning teachers taking part in the COACTIV-R study, which was conducted to assess professional competence and development during teacher education in Germany. Teacher education in Germany is divided into two phases: a first university-based phase and a second phase of classroom teaching practice. All COACTIV-R participants were in the second phase of teacher education. During this 2-year placement phase, beginning teachers are expected to acquire the practical knowledge of learning and instruction considered crucial for their profession (Oser, Achtenhagen, & Renold, 2006). They are introduced to the practicalities of teaching under supervision of a mentor. Depending on their degree program, they teach either in vocational-track schools (grades 5 to 10) or in college-track schools (grades 5 to 13).

The study, which conformed to APA ethical standards, was cross-sectional. Before beginning the study, we obtained the approval of the ethics committees of the two German federal states in which data were collected. Questionnaires were sent to participants at the beginning of the first (cohort 1, n = 332) or second (cohort 2, n = 101) year of their teacher placement phase and were answered at home. Data from cohort 2 were collected in only one of the federal states. Hence, analyses comparing the two cohorts are based on data from only one state. Participation was voluntary and participants received monetary compensation. The items relevant for the present study were administered as part of a larger questionnaire tapping beginning teachers’ knowledge, beliefs, sociodemographic data, and information on the teacher training program.

Participants (65.3% women, n = 277) were on average 28.2 years old (SD = 4.75; range: 23–57 years). Of these, 45.3% (n = 196) were teaching in the vocational track, and 14.2% (n = 60) were from an immigrant background.

4.5.1.2 Instruments.

As described above, the TCBS consists of six items designed to measure multicultural beliefs and four items designed to measure egalitarian beliefs. Responses were given on a 6-point scale ranging from 1 (strongly disagree) to 6 (strongly agree). All items are listed in Table 4.1.
## Table 4.1
Results of Confirmatory Factor Analysis: Standardized Factor Loadings for the TCBS in Both Studies

<table>
<thead>
<tr>
<th>Teacher Cultural Beliefs Scale (TCBS)</th>
<th>Study 1</th>
<th>Study 1(-)</th>
<th>Study 2</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Factor 1: Multicultural Beliefs</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. In the classroom, it is important to be responsive to differences between cultures.</td>
<td>.770</td>
<td>.722</td>
<td>.519</td>
</tr>
<tr>
<td>2. It is important for children to learn that people from other cultures can have different values.</td>
<td>.613</td>
<td>.623</td>
<td>.656</td>
</tr>
<tr>
<td>3. Respecting other cultures is something that children should learn as early as possible.</td>
<td>.615</td>
<td>.616</td>
<td>--</td>
</tr>
<tr>
<td>4. In counseling parents who have a different cultural background than I do, I try to be considerate of cultural particularities.</td>
<td>.567</td>
<td>.575</td>
<td>.605</td>
</tr>
<tr>
<td>5. When meeting with parents of different cultural backgrounds, I spend more time trying to understand and empathize with their perspective.</td>
<td>.551</td>
<td>.547</td>
<td>--</td>
</tr>
<tr>
<td>6. Dealing with cultural diversity should be taught in teacher training courses.</td>
<td>.400</td>
<td>.411</td>
<td>.595</td>
</tr>
<tr>
<td><strong>Factor 2: Egalitarian Beliefs</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Schools should aim to foster and support the similarities between students from different cultural backgrounds.</td>
<td>.782</td>
<td>.780</td>
<td>.650</td>
</tr>
<tr>
<td>8. In the classroom, it is important that students of different origins recognize the similarities that exist between them.</td>
<td>.857</td>
<td>.850</td>
<td>.824</td>
</tr>
<tr>
<td>9. When there are conflicts between students of different origins, they should be encouraged to resolve the argument by finding common ground.</td>
<td>.689</td>
<td>.683</td>
<td>.684</td>
</tr>
<tr>
<td>10. Children should learn that people of different cultural origins often have a lot in common.</td>
<td>.406</td>
<td>.367</td>
<td>.740</td>
</tr>
</tbody>
</table>

Latent correlation between the two factors .625 .613 .736

*Note:* All items were administered in German. Study 1: sample of beginning teachers (N = 376). Study 1(-): study 1 sample without beginning teachers from an immigrant background (N = 325). Study 2: sample of teacher candidates (75%) and educational science students (N_{full sample} = 339).

### 4.5.2 Analyses and results

#### 4.5.2.1 The measurement model of the TCBS

We conducted confirmatory factor analyses (CFA) using the Mplus software (Muthén & Muthén, 1998–2006) to test whether the hypothesized two-factor structure of multiculturalism and egalitarianism emerged. Parameters were estimated using the maximum-likelihood (ML)
fitting function. We evaluated model fit according to criteria suggested by Hu and Bentler (1999). There is growing consensus that imputation of missing observations and maximum-likelihood approaches are preferable to pairwise or listwise deletion (Schafer & Graham, 2002). In the present analyses, we chose the full-information-maximum-likelihood (FIML) procedure that is implemented in Mplus (Graham & Hoffer, 2000). Two items from the multiculturalism subscale assessed how sensitive participants were to cultural background when meeting with or counseling parents (items 4 and 5). These two similarly worded items were more similar to each other than to the remaining items. We therefore allowed for a correlation between the two items in both models.

The descriptive fit indices of the CFA testing the hypothesized two-factor model indicated a good fit, $\chi^2(33) = 70.344$, CFI = .966, TLI = .951, RMSEA = .055, SRMR = .039. We also estimated a one-factor model, $\chi^2(34) = 216.280$, CFI = .834, TLI = .780, RMSEA = .119, SRMR = .078, and tested it against the two-factor model. The results confirmed that the two-factor model provided a better fit to the data than the one-factor model, $\Delta\chi^2(1) = 145.936$, $p < .001$. The two-factor structure was also supported by the latent correlation between multiculturalism and egalitarianism, which was only moderately high ($r = .63$). The results thus supported the hypothesized two-dimensional structure of the TCBS. The reliabilities of the two scales were also satisfactory (Cronbach’s $\alpha = .75$ for multiculturalism; $\alpha = .78$ for egalitarianism). All factor loadings were statistically significant and are listed in the first column of Table 4.1.

4.5.2.2 Measurement invariance of the TCBS

In a second step, we tested whether the hypothesized two-factor structure held across groups of beginning teachers at different stages of their education (cohort 1 and cohort 2) and in different school tracks (college and vocational) as an aspect of factorial validity. To this end, we conducted multigroup CFAs in Mplus to test for measurement invariance (see Cheung & Rensvold, 2002).

First, we estimated overall model fit for the entire sample (equal form; Brown, 2006). We then estimated two models with additional between-group constraints: (a) equality of factor loadings and (b) equality of factor loadings and intercepts. To check for significant differences, we tested each model against the one with one additional constraint (equal form vs. equal factor loadings, and equal factor loadings vs. equal factor loadings and intercepts). Because we expected measurement invariance to hold, we did not expect to find differences in the factor structure across the two cohorts or the different school forms. In view of the small
sample size, we did not test for measurement invariance between participants with and without an immigrant background.

For the two cohorts, the constraint of equal factor loadings did not lead to a significant decrease in model fit, indicating that the subscales measured the same constructs for beginning teachers in both cohorts. Assuming equal intercepts in addition to equal factor loadings did not decrease model fit either (all \( \chi^2 \) comparisons were nonsignificant, see Table 4.2). We can therefore conclude that both cohorts showed comparable means.

For the different tracks, the constraint of equal factor loadings again did not lead to a significant decrease in model fit, indicating that the subscales measure the same constructs for teachers in the different tracks. Assuming equal intercepts in addition to equal factor loadings did, however, significantly decrease the fit of the model (Table 4.3), indicating that the degree to which teachers in the different tracks endorsed multiculturalism and egalitarianism differed.

To compare the factor means of the different cohorts and tracks, we used multiple group mean structure comparisons and set the latent means and variances for multiculturalism and egalitarianism to be equal across groups. In view of the small sample size, we used the traditional \( t \) test for the comparison of participants with and without an immigrant background.

Between the cohorts, there was no significant difference in beginning teachers’ multicultural, \( \Delta MK = 0.004, ns \), and egalitarian beliefs, \( \Delta EG = 0.081, ns \), (\( \Delta \chi^2(4) = 2.796, ns \)), replicating the results of the test of measurement invariance. Beginning teachers in cohort 1 strongly endorsed multicultural (\( M = 4.72, SD = .63 \)) and egalitarian beliefs (\( M = 5.06, SD = .65 \)), as did their counterparts in cohort 2 (multiculturalism: \( M = 4.78, SD = .61 \); egalitarianism: \( M = 5.07, SD = .58 \)).

Between teachers in different tracks, however, there were significant differences in multiculturalism, \( \Delta MK = 0.487, p < .001 \), and egalitarianism, \( \Delta EG = 0.267, p < .05 \), with beginning teachers in vocational-track schools as the reference group, \( \Delta \chi^2(4) = 19.459, p < .001 \). Beginning teachers in vocational-track schools endorsed multiculturalism more strongly (\( M = 4.86, SD = .57 \)) than did those in college-track schools (\( M = 4.63, SD = .65 \)). At the same time, they also endorsed egalitarianism more strongly (\( M = 5.13, SD = .60 \)) than did their counterparts in college-track schools (\( M = 5.00, SD = .65 \)).

In view of the small sample size, we did not test for measurement invariance between participants with and without immigrant background. However, we used \( t \) tests to compare mean differences between beginning teachers with and without immigrant background. The
results revealed significant differences in the endorsement of multiculturalism, \( t(396) = -2.189, p < .05 \). Beginning teachers with an immigrant background supported multiculturalism significantly more strongly than did those without an immigrant background (immigrant background: \( M = 4.92, SD = .60 \); without immigrant background: \( M = 4.71, SD = .63 \)). There was no significant difference between beginning teachers with and without an immigrant background in their support of egalitarianism, \( t(371) = -1.269, p = .21 \) (with immigrant background: \( M = 5.17, SD = .60 \); without immigrant background: \( M = 5.04, SD = .63 \)).

**Table 4.2**

Results from Multigroup Confirmatory Factor Analyses Testing Measurement Invariance of Teachers’ Cultural Beliefs in Cohort 1 and Cohort 2

<table>
<thead>
<tr>
<th></th>
<th>( \chi^2 )</th>
<th>Df</th>
<th>( \chi^2_{diff} )</th>
<th>( \Delta df )</th>
<th>RMSEA (90% CI)</th>
<th>SRMR</th>
<th>CFI</th>
<th>TLI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Equal form</td>
<td>103.679</td>
<td>66</td>
<td>.077 (.047--.104)</td>
<td>.064</td>
<td>.941</td>
<td>.920</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Equal factor loadings</td>
<td>117.630</td>
<td>76</td>
<td>13.951</td>
<td>10</td>
<td>.075 (.047--.101)</td>
<td>.128</td>
<td>.935</td>
<td>.923</td>
</tr>
<tr>
<td>Equal factor loadings and intercepts</td>
<td>124.596</td>
<td>86</td>
<td>6.969</td>
<td>10</td>
<td>.068 (.039--.093)</td>
<td>.137</td>
<td>.940</td>
<td>.937</td>
</tr>
</tbody>
</table>

*Note:* \( N = 193 \). \( \chi^2_{diff} \): nested \( \chi^2 \) difference; RMSEA: root mean square error of approximation; 90% CI: 90% confidence interval for RMSEA; SRMR: standardized mean square residual; CFI: comparative fit index; TLI: Tucker-Lewis Index.

**Table 4.3**

Results from Multigroup Confirmatory Factor Analyses Testing Measurement Invariance of Teachers’ Cultural Beliefs for Beginning Teachers in Vocational- and College-Track Schools

<table>
<thead>
<tr>
<th></th>
<th>( \chi^2 )</th>
<th>df</th>
<th>( \chi^2_{diff} )</th>
<th>( \Delta df )</th>
<th>RMSEA (90% CI)</th>
<th>SRMR</th>
<th>CFI</th>
<th>TLI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Equal form</td>
<td>96.840**</td>
<td>66</td>
<td>.050 (.026--.070)</td>
<td>.046</td>
<td>.971</td>
<td>.961</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Equal factor loadings</td>
<td>108.486**</td>
<td>76</td>
<td>11.646</td>
<td>10</td>
<td>.048 (.025--.067)</td>
<td>.085</td>
<td>.970</td>
<td>.964</td>
</tr>
<tr>
<td>Equal factor loadings and intercepts</td>
<td>151.100***</td>
<td>86</td>
<td>42.614*</td>
<td>10</td>
<td>.063 (.046--.080)</td>
<td>.130</td>
<td>.939</td>
<td>.927</td>
</tr>
</tbody>
</table>

*Note:* \( N = 367 \). \( \chi^2_{diff} \): nested \( \chi^2 \) difference; RMSEA: root mean square error of approximation; 90% CI: 90% confidence interval for RMSEA; SRMR: standardized mean square residual; CFI: comparative fit index; TLI: Tucker-Lewis Index.

*** \( p < .001 \). ** \( p < .01 \). * \( p < .05 \).
In a final step, we tested for mean differences between multiculturalism and egalitarianism and compared these differences across groups (cohorts, tracks, immigrant background). On average, beginning teachers strongly endorsed both beliefs (multiculturalism: M = 4.73, SD = .63; egalitarianism: M = 5.06, SD = .63; range for both subscales: 1–6). However, they endorsed egalitarian beliefs significantly more strongly than multicultural beliefs, t(373) = -9.600, p < .001.

4.5.3 Discussion

The results of factor analyses confirmed the theoretically predicted two-factor structure with the factors multiculturalism and egalitarianism. Reliabilities were satisfactory for both scales. We conducted tests for measurement invariance and group comparisons for teachers of different cohorts and in different school types as proxies for differential exposure to cultural diversity in the classroom. Results showed equal factor loadings and equal intercepts for beginning teachers in the first and second cohort, confirming measurement invariance. Contrary to our hypotheses, beginning teachers in the two cohorts did not differ in their endorsement of multicultural beliefs. Likewise, we found no significant differences in their egalitarian beliefs. For beginning teachers in college- versus vocational-track schools, we found equal factor loadings but different intercepts, suggesting that some items may function differentially for these two groups. This difference may be attributable to differences in the degree of cultural diversity of the respective teaching environments. As expected, beginning teachers in vocational-track schools endorsed multicultural beliefs significantly more strongly than did their counterparts in college-track schools. However, and contrary to our hypotheses, they also endorsed egalitarian beliefs more strongly. Possible interpretations of our findings of higher multicultural beliefs in vocational-track teachers are that greater exposure to cultural differences raises these teachers’ awareness of cultural differences. On the other hand, teachers with multicultural beliefs may be more likely to decide to teach at more culturally diverse schools. Their heightened awareness of cultural differences may also make these teachers more ambitious to achieve ideals of equality, as reflected in their endorsement of egalitarian beliefs.

Descriptive results on the manifest level showed that – whereas beginning teachers tended to endorse egalitarian beliefs more strongly than multicultural beliefs – this pattern was reversed for beginning teachers with an immigrant background, who showed significantly higher endorsement of multicultural beliefs than did beginning teachers without an immigrant background. This finding replicates results from various (non-teacher) samples in the Netherlands and the United States, which have shown that people with an immigrant or
minority background endorse multiculturalism more strongly than do majority members of society (van de Vijver et al., 2008; Wolsko et al., 2006).

In sum, the aim of study 1 was to test the newly developed TCBS instrument and to confirm the hypothesized two-factor structure of multiculturalism and egalitarianism—a first but necessary step in establishing the new scale for use in future research. In a second step, we tested the construct validity of the two subscales.

4.6 Study 2

Study 2 tested the construct validity of the two subscales of the TCBS: multiculturalism and egalitarianism. To this end, we derived several hypotheses from social-psychological research on multiculturalism and egalitarianism. The following hypotheses guided our choice of measures.

4.6.1 Prejudices and motivation to control prejudiced behavior

Research has shown that the motivation to act without prejudice moderates the relation between implicit and explicit stereotypes about gender (Banse & Gawronski, 2003). Two aspects of prejudiced behavior can thus be differentiated: expression of prejudices and the motivation to act without prejudice.

Based on previous research, we expected multiculturalism and egalitarianism to show different patterns of relations to the expression of prejudices. Social-psychological research suggests that multicultural beliefs are associated with fewer prejudices (Park & Judd, 2005; Wolsko et al., 2006; Wolsko et al., 2000). Findings for egalitarianism are not as clear-cut, however. On the one hand, research on color-blindness has shown that color-blind perspectives, although initially promoting an anti-prejudice stance, can lead to more prejudicial behaviors in actual interactions (Richeson & Nussbaum, 2004). On the other hand, a study by Wolsko and colleagues showed that, relative to a control condition, White participants primed with a color-blind message made more positive evaluations of African Americans (Wolsko et al., 2000). However, as both beliefs theoretically reflect a positive regard for immigrant students, we expected both subscales to be positively related to the motivation to control prejudiced behavior.

4.6.2 Attitudes toward pluralism and acculturation

Empirical evidence on the relationship between multiculturalism and egalitarianism, on the one hand, and attitudes toward pluralism and acculturation, on the other, is still scarce.

Because both subscales of the TCBS assess an appreciation of cultural diversity in school, we expected both subscales to be positively related to attitudes toward pluralism. Given the
two beliefs’ differing emphasis on students’ cultural backgrounds and their relevance for teaching practice, however, we expected to find a stronger relationship for multiculturalism than for egalitarianism. Likewise, multiculturalism and egalitarianism entail differing views on intergroup contact and on how acculturation should take place (Park & Judd, 2005). Teachers with multicultural beliefs can be expected to be more accepting of cultural differences – a necessary condition for the integration of other cultures into mainstream society – and hence to have more positive attitudes toward acculturation than teachers with egalitarian beliefs, whose focus is more on equality.

4.6.3 Authoritarianism

Social psychological research in the U.S. context has shown that authoritarianism is correlated with political conservatism and with opposition to societal change and progress (Jost, Glaser, Kruglanski, & Sulloway, 2003). Accepting different cultural influences in schools requires a certain level of openness to changing societal structures, but also to the shortcomings of one’s own culture and openness to new points of view. Petzel and colleagues (Petzel, Wagner, van Dick, Stellmacher, & Lenke, 1997) found that high teacher authoritarianism correlated negatively with what they called “pedagogically useful” conflict solving (e.g., discussion). The authors argued that authoritarian teachers show higher approval for hierarchical school structures and are less open to emancipated teacher–student relationships. Moreover, authoritarianism often seems to be associated with ethnic prejudices, rather than with respectful attitudes toward other cultures (Petzel, Wagner, van Dick et al., 1997; Zick & Six, 1997).

We therefore expected scores on the multiculturalism subscale to be negatively correlated with authoritarianism. Egalitarian beliefs, in contrast, are largely compatible with traditional Western beliefs of equality and thus do not require openness to different viewpoints and to societal changes. Hence, we did not expect scores on the egalitarian subscale to show any relationship with authoritarianism.

4.7 Method

4.7.1 Participants and procedure

A total of \( N = 340 \) students (233 women) sampled from a German university participated in this questionnaire study. Of the participants, 79\% (\( n = 254 \)) were of German nationality and 21\% (\( n = 68 \)) had an immigrant background. Ages ranged from 19 to 55 years (\( M = 25, SD = 5 \)). The sample comprised 266 (81\%) teacher candidates; the remaining 19\% (\( n = 62 \)) were studying educational science. Overall, 55\% (\( n = 182 \)) had already taught at schools or in
comparable settings (63%, n = 166, of the teacher candidates, and 23%, n = 13, of the educational science students answered ‘yes’ when asked whether they had teaching experience). Of those with teaching experience (n = 175), 83% (n = 146) reported having worked with immigrant students (88%, n = 142, of the teacher candidates and 31%, n = 4, of the educational science students). About half of the participants (47%, n = 145) had worked with immigrant children beyond the academic setting (e.g., as a camp counselor), and 61% (n = 195) reported having discussed issues of intercultural education in their professional education courses.

Students were recruited in their university seminars, but participation was voluntary. APA ethical standards were followed in the conduct of the study. The study questionnaire was administered in the last 10 minutes of the class, and participants received chocolate bars as an incentive.

4.7.2 Instruments
The questionnaire included a shortened version of the TCBS containing four multiculturalism items and four egalitarianism items. The questionnaire also included items assessing prejudices and motivation to control prejudiced behavior, attitudes toward pluralism and acculturation, and authoritarianism. Additionally, socio-demographic data were assessed.

4.7.2.1 Prejudices and motivation to control prejudiced behavior
The behavior control subscale from the German version of the Motivation to Control Prejudiced Reactions scale (Banse & Gawronski, 2003) was used to assess participants’ motivation to control prejudiced behavior. Participants gave their responses on a 5-point agree–disagree scale, with higher scores reflecting higher self-control and higher motivation to control prejudiced behavior. Participants’ prejudices toward foreigners living in Germany were assessed with four prejudiced statements taken from the German General Social Survey (Ganter, 2001). Again, participants gave their responses on a 5-point agree–disagree scale, with higher scores reflecting more prejudiced views toward foreigners.

4.7.2.2 Attitudes toward pluralism and acculturation
Two scales assessed attitudes toward pluralism and acculturation: a translated and slightly adapted and shortened version of the PADAA (Stanley, 1996) and the German Acculturation scale (van Dick, Wagner, Adams, & Petzel, 1997). The original items of the PADAA were designed for physical education teachers. For the purposes of the present study, physical education was replaced by lessons in general. Participants gave their responses on a 6-point agree–disagree scale, with higher scores reflecting higher endorsement of pluralism. We
further administered the 10 items of the integration and assimilation (reverse-recoded) subscales from the German Acculturation scale (van Dick et al., 1997). Participants gave their responses on a 6-point agree–disagree scale, with higher scores reflecting more favorable views on cultural integration.

**4.7.2.3 Authoritarianism**

We used a teacher-specific authoritarianism scale (Petzel, Wagner, Nicolai, & van Dick, 1997) to measure the tendency toward an authoritarian teaching style. Responses were made on 5-point agree–disagree scales, with higher scores indicating higher agreement with authoritarianism. The psychometric properties of all scales are reported in Table 4.4. All scales had acceptable or good reliabilities.

**Table 4.4**

Descriptive Statistics for Scales Administered in Study 2

<table>
<thead>
<tr>
<th>Scale</th>
<th>Example item</th>
<th>Number of items</th>
<th>M</th>
<th>SD</th>
<th>Cronbach’s α</th>
</tr>
</thead>
<tbody>
<tr>
<td>MC</td>
<td>In the classroom, it is important to be responsive to differences between cultures.</td>
<td>4</td>
<td>4.91</td>
<td>0.78</td>
<td>.68</td>
</tr>
<tr>
<td>EG</td>
<td>In the classroom, it is important that students of different origins recognize the similarities that exist between them.</td>
<td>4</td>
<td>4.95</td>
<td>0.87</td>
<td>.81</td>
</tr>
<tr>
<td>MCPR¹</td>
<td>One should never say anything derogatory about minorities in public.</td>
<td>7</td>
<td>3.68</td>
<td>0.72</td>
<td>.76</td>
</tr>
<tr>
<td>Prejudices¹</td>
<td>Foreigners living in Germany should seek their spouses within their own ethnic group.</td>
<td>4</td>
<td>1.76</td>
<td>0.57</td>
<td>.64</td>
</tr>
<tr>
<td>PADAA</td>
<td>Cultural diversity is a valuable resource and should be preserved.</td>
<td>12</td>
<td>5.04</td>
<td>0.54</td>
<td>.75</td>
</tr>
<tr>
<td>ACS</td>
<td>It would be good if all ethnic groups in Germany maintained their cultural identity.</td>
<td>10</td>
<td>3.96</td>
<td>0.61</td>
<td>.74</td>
</tr>
<tr>
<td>AUT¹</td>
<td>The most important things for learning are discipline and obedience.</td>
<td>8</td>
<td>2.60</td>
<td>0.61</td>
<td>.73</td>
</tr>
</tbody>
</table>

Note: ¹Scale ranged from 1–5; all other scales ranged from 1–6. SD: standard deviation; MC: Multiculturalism; EG: Egalitarianism; MCPR: Motivation to Control Prejudiced Reactions scale (behavior control subscale); Prejudices: German General Social Survey; PADAA: Pluralism and Diversity Attitude Assessment; ACS: Acculturation scale; AUT: Authoritarianism.
4.8 Analyses and results

4.8.1 Measurement model of the TCBS

As in study 1, we used Mplus to perform CFA to test for the hypothesized factor structure of the TCBS. The two-dimensional model showed good fit, $\chi^2(19) = 26.789$, CFI = .990, TLI = .985, RMSEA = .035, SRMR = .024; more importantly, it fared better than a one-dimensional model, $\chi^2(20) = 78.783$, CFI = .924, TLI = .893, RMSEA = .093, SRMR = .051, and the chi-square difference test was significant: $\Delta \chi^2(1) = 51.994$, $p < .001$. All factor loadings were statistically significant (see Table 4.1, column 3). The correlation between the two subscales was $r = .54$, $p < .001$. This replication of the results of study 1 in a different sample is evidence for the stability and generalizability of the instrument.

4.8.2 Validation of the TCBS

To validate the multiculturalism and egalitarianism scales, we estimated a fully identified path model with the two subscales of the TCBS as predictors and the other scales as outcome variables. The advantage of a path model over simple correlations was that we were able to control for the effects of the respective other subscale and to analyze the relationships between the two subscales and the outcomes simultaneously. The results of the path model are presented in Table 4.5.

We tested for differential effects by imposing equality constraints on the unstandardized paths of the effects of multiculturalism and egalitarianism on the respective outcomes and comparing the fit of the models. In the following, we report results from the path model for (a) prejudices and the motivation to control prejudiced behavior, (b) attitudes toward pluralism and acculturation, and (c) authoritarianism, separately.

4.8.2.1 Prejudices and motivation to control prejudiced behavior

Based on previous research, we expected multiculturalism and egalitarianism to be equally associated with the motivation to control prejudiced behavior. This hypothesis was supported by the results of the path analysis: multiculturalism and egalitarianism were both positively and significantly related to the motivation to control prejudiced behavior. To test for differential effects, we set the coefficients of multiculturalism and egalitarianism to be equal for motivation to control prejudiced behavior. In line with our expectations, there was no

---

12 We re-ran the analyses using $z$ transformation of multiculturalism and egalitarianism. The pattern of results remained qualitatively similar; hence, we report only the results for the unstandardized paths coefficients.
significant decrease the fit of the model, $\Delta \chi^2(1) = 0.302, ns$. Hence, the multicultural and the egalitarian subscales both assess beliefs that involve the motivation to end discrimination.

We expected multiculturalism and egalitarianism to be differentially related to prejudices, and the relationship between multiculturalism and prejudices to be negative. We indeed found significant negative relations of prejudices with multiculturalism, but no significant relations with egalitarianism. Again, we tested for differential effects. Imposing equality constraints on the effects of multiculturalism and egalitarianism on prejudices decreased the model fit significantly, $\Delta \chi^2(1) = 11.554, p < .001$. Hence, the multiculturalism subscale assesses a belief that is negatively related to prejudices, whereas the egalitarian subscale does not. Participants scoring high on multiculturalism opposed prejudiced statements significantly more strongly than did participants scoring high on egalitarianism.

4.8.2.2 Attitudes toward pluralism and acculturation

We expected both multiculturalism and egalitarianism to be positively related to the appreciation of pluralism. Indeed, our results showed positive correlations of the two scales with the PADAA. The more strongly participants endorsed multiculturalism or egalitarianism, the more strongly they supported pluralism.

At the same time, given its emphasis on appreciating diversity, we expected multiculturalism to show a stronger relationship with pluralism than egalitarianism, which is more concerned with equal rights than with the benefits of diversity. Consistent with this expectation, model fit decreased significantly when we imposed equality constraints on the effects of multiculturalism and egalitarianism on the PADAA, $\Delta \chi^2(1) = 5.826, p < .05$. As expected, the relationship was stronger for multiculturalism than for egalitarianism.

For attitudes toward acculturation, we hypothesized a positive relationship with multiculturalism but not with egalitarianism. As expected, multiculturalism was significantly and positively related to acculturation, whereas the results for egalitarianism were not significant. The difference between multiculturalism and egalitarianism was significant. In line with our expectations, model fit decreased significantly when equality constraints were imposed on the effects of multiculturalism and egalitarianism on the acculturation scale, $\Delta \chi^2(1) = 10.875, p < .001$.

4.8.2.3 Authoritarianism

Research has shown that proponents of multiculturalism are more appreciative and tolerant of differences than are proponents of egalitarianism. Consequently, we expected authoritarianism to be negatively related to multiculturalism. Indeed, results showed a
significant negative correlation between authoritarianism and multiculturalism, but not egalitarianism. Imposing equality constraints decreased the model fit significantly, \( \Delta \chi^2(1) = 4.219, p < .05 \). We can therefore conclude that endorsement of multiculturalism is significantly associated with lower authoritarianism.

Table 4.5
Standardized Path Coefficients of Multiculturalism and Egalitarianism on Control and Avoidance of Prejudices, Attitudes Towards Diversity, and Authoritarian Teaching Style

<table>
<thead>
<tr>
<th></th>
<th>Multiculturalism</th>
<th>Egalitarianism</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>( R^2 )</td>
<td>( \beta )</td>
</tr>
<tr>
<td>Control and avoidance of prejudices</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MCPR(^1)</td>
<td>12.7%</td>
<td>.224</td>
</tr>
<tr>
<td>Prejudices(^\dagger)</td>
<td>15.6%</td>
<td>-.368</td>
</tr>
<tr>
<td>Attitudes toward diversity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PADAA</td>
<td>26.3%</td>
<td>.389</td>
</tr>
<tr>
<td>ACS</td>
<td>10.3%</td>
<td>.321</td>
</tr>
<tr>
<td>Authoritarian teaching style</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AUT(^1)</td>
<td>7.1%</td>
<td>-.242</td>
</tr>
</tbody>
</table>

Note: \(^1\)Scale ranged from 1–5; all other scales ranged from 1–6. \(^\dagger\)\( N = 339, ^* p < .001 \) (two-tailed).

MCPR: Motivation to Control Prejudiced Reactions scale (behavior control subscale); Prejudices: German General Social Survey; PADAA: Pluralism and Diversity Attitude Assessment; ACS: Acculturation scale; AUT: Authoritarianism.

4.9 Discussion

In sum, the results of study 2 were consistent with our expectations that the multiculturalism and egalitarianism subscales of the TCBS measure two beliefs about cultural diversity that share a motivation to control prejudiced behavior but that are distinctly related to beliefs about pluralism and acculturation, prejudices toward immigrants, and authoritarianism.

Both subscales were related to openness to pluralism in schools and to a higher motivation to control prejudiced behavior. Participants with multicultural and egalitarian beliefs shared the motivation to control prejudiced behavior, but appreciation of pluralism was significantly more strongly related to multiculturalism than to egalitarianism. We also found differential relationships between the two subscales and several other outcomes: prejudices, attitudes about acculturation, and authoritarianism. Multiculturalism was associated with all three outcomes, whereas egalitarianism was not, with proponents of multiculturalism being less
likely to agree with prejudiced statements, having more integrative views on acculturation, and showing a lower tendency toward an authoritarian teaching style.

These results suggest that – although often promoted as the preferable strategy – egalitarian beliefs may in fact be the less effective response to culturally diverse classrooms.

4.10 General Discussion

The aim of the present studies was to establish the newly developed Teacher Cultural Beliefs Scale (TCBS) for use in future research. To this end, we tested and validated the TCBS in two different samples. The TCBS was designed to measure two beliefs about how to deal with cultural diversity in the classroom. Multiculturalism, on the one hand, combines a general appreciation of cultural differences with the belief that such differences should be accommodated in teaching practice. Egalitarianism, on the other hand, emphasizes cultural similarities and stresses the importance of treating all students equally, regardless of their cultural background.

Study 1 confirmed the hypothesized two-factor structure of the scale and showed that both beliefs can be reliably assessed – two necessary prerequisites for the implementation of the TCBS in future research. Tests of measurement invariance confirmed both subscales to have equal factor structure across beginning teachers in different cohorts and school tracks. Nonetheless, we found mean differences in the endorsement of multiculturalism and egalitarianism between participants with differing experience of cultural diversity (in terms of school track and immigrant background). In Germany, most vocational-track schools have a higher proportion of immigrant students than do college-track schools, meaning that teachers in vocational-track schools experience more cultural diversity in their everyday school practice than do teachers in college-track schools. Our results show that beginning teachers in vocational-track schools endorsed multiculturalism significantly more strongly than did beginning teachers in college-track schools. Similarly, participants with immigrant backgrounds endorsed multiculturalism more strongly than did participants without immigrant backgrounds.

The restriction of the study 1 sample to beginning teachers in the teaching placement phase is certainly a limitation of the study. Further research is needed to test the factorial structure of the TCBS in samples of teachers with more teaching experience. Another limitation is the use of school track as a proxy for experience of cultural diversity. Future studies should aim at assessing personal experience of cultural diversity more directly and in more detail to investigate how this experience influences cultural beliefs. Finally, further research should consider how multiculturalism and egalitarianism relate to negative beliefs
about cultural diversity (e.g., assimilationist beliefs). A further limitation is the quantitative nature of the study, which we discuss below.

In study 2, we investigated the construct validity of the two subscales by investigating their correlations with (a) prejudices and the motivation to control prejudiced behavior, (b) attitudes toward pluralism and acculturation, and (c) authoritarianism. Both subscales theoretically imply favorable attitudes toward immigrant students, which should be reflected in a motivation to control prejudiced behavior and a general appreciation of pluralism. However, previous research in non-educational contexts has shown that the two beliefs may differentially affect prejudices. For example, focusing on equality and trying to ignore cultural differences can lead to racial bias and to negative interracial interactions (Richeson & Nussbaum, 2004; Vorauer et al., 2009; Wolsko et al., 2000). In line with these findings, the results of study 2 showed that multiculturalism and egalitarianism were equally related to the motivation to control prejudiced behavior but not to opposition to prejudiced statements. Multiculturalism was negatively related to prejudiced statements, whereas egalitarianism was not related to this scale at all. This finding again shows that motivation to control prejudiced behavior is not necessarily synonymous with not harboring prejudicial thoughts. Although our results do not warrant the conclusion that focusing on equality can lead to prejudice, they show that an egalitarian perspective – despite its correlation with the motivation to control prejudices – is not at odds with prejudicial thoughts. Multiculturalism, on the other hand, was strongly negatively related to prejudicial thoughts. In other words, holding multicultural beliefs in fact means disagreeing with prejudicial sentiments, whereas holding egalitarian beliefs solely reflects a will to control them, but is unrelated to their content.

The results showed positive and significant correlations of pluralism with both multiculturalism and egalitarianism. As expected, however, the relationship was significantly stronger for multiculturalism than for egalitarianism. Our results for views on acculturation were similar. Theoretically, the two beliefs entail differing views on how acculturation should take place. The data confirmed that, relative to proponents of egalitarianism, proponents of multiculturalism were more strongly in favor of the integration of minority cultures into mainstream society.

We also investigated correlations with authoritarianism. Previous research has shown that authoritarianism stands in fundamental contrast to an open and tolerant attitude (Zick & Six, 1997). Because multiculturalism is defined as open and tolerant, we expected it to be negatively related to authoritarianism, and our results confirmed this hypothesis. Egalitarian-
Further research is needed to investigate how different beliefs translate into teaching practices. The finding that multicultural and egalitarian beliefs are differentially related to authoritarian views on teaching gives a first hint of their importance for teaching.

We acknowledge that teachers’ beliefs about diversity can be manifold and that assessing only multicultural and egalitarian beliefs cannot provide a full picture. Qualitative approaches may provide deeper insights into the complexity and interrelatedness of beliefs about cultural diversity – for example, by exploring how beliefs are constructed in discourse and interaction. As discussed above, however, previous social-psychological research demonstrating the relevance of multicultural and egalitarian beliefs for interethnic interaction has implications for the educational context. We therefore drew on instruments that have been successfully applied in quantitative social-psychological research to develop the TCBS. Additionally, our aim was to provide a validated instrument that can be used in future studies with larger samples. The present studies were not conducted to investigate how multicultural and egalitarian beliefs develop or how they translate into behavior in certain situations. Rather, the aim was to validate the new scale for application in future research that might, for example, investigate the role of personal experiences or compare the beliefs of different groups of teachers, such as majority and minority teachers (Castro, 2010). To further the understanding of teachers’ belief systems in general and beliefs about cultural diversity in particular, future studies should incorporate both quantitative and qualitative approaches.

In sum, the results of our two studies suggest that multiculturalism and egalitarianism are two distinct and fundamentally different approaches to dealing with cultural diversity and to accommodating immigrant students in the classroom. In investigating teachers’ multicultural and egalitarian beliefs, we have crossed the border between social-psychological and educational research. The two beliefs have previously been studied primarily in the field of social psychology; instruments assessing the multicultural and egalitarian beliefs of teachers, in particular, were lacking. Our studies thus represent the first necessary steps toward research assessing multicultural and egalitarian beliefs in the educational context. With increasing diversity in schools around the globe, teachers in Western societies need to be prepared to teach in culturally heterogeneous schools and to challenge their own beliefs about cultural diversity. Our findings provide support for the idea that teachers’ cultural beliefs directly impact their teaching practices. However, research on the implications of multicultural and egalitarian beliefs in the educational context and research on how teachers’ beliefs manifest
themselves in everyday classroom behavior is still scarce or nonexistent. First evidence for the importance of cultural beliefs comes from the employment context. Plaut and colleagues found that White co-workers’ multiculturalism positively predicted their minority co-workers’ psychological engagement (Plaut et al., 2009). In a similar vein, educational research should probe for differential effects of teachers’ multicultural and egalitarian beliefs on immigrant students’ engagement, learning progress, and school achievement. The newly developed TCBS provides a useful tool for assessing teachers’ multicultural and egalitarian beliefs. Future research should investigate whether favorable attitudes toward immigrant students are sufficient to create an atmosphere in which students from all backgrounds can excel or whether multicultural and egalitarian beliefs are associated with distinct strategies that are differentially beneficial for immigrant students. The ultimate aim must be to improve the learning outcomes of immigrant students and thereby reduce the achievement gap between students with and without an immigrant background—a challenge that needs to be addressed by the majority of the OECD countries (see Stanat & Christensen, 2006).

Acknowledgement
The COACTIV-R research project at the Max Planck Institute for Human Development was funded by the Max Planck Society’s Strategic Innovation Fund (2008-2010). The authors thank Bernadette Park and Chick Judd for helpful discussions on multiculturalism and color-blindness, and for their help with adapting the constructs for the educational context. Many thanks go to Susannah Goss for her editorial assistance.
4.11 References


of schoolteachers on their dealing with problematic intercultural situations]. *Gruppen-


Teilstudie 3: Should Teachers be Colorblind? How Multicultural and Egalitarian Beliefs Differentially Relate to Aspects of Teachers’ Professional Competence for Teaching in Diverse Classrooms

Notice: This is the authors’ version of a work that has been submitted for publication.

Abstract
In recent years, there has been ongoing debate about how to deal with cultural diversity in schools. The present study uses the framework of professional competence to investigate the relationship between two cultural beliefs, multiculturalism and egalitarianism/colorblindness, and different aspects of professional competence for teaching immigrant students. N = 433 pre-service teachers answered questionnaires about their cultural beliefs, their motivational orientations and values, and their willingness to adapt their teaching to culturally diverse students. Results from path model analyses showed that participants with multicultural beliefs reported more self-efficacy and enthusiasm for teaching, more integrative career motives, fewer stereotypes, and a willingness to adapt their teaching. Egalitarian beliefs showed no relationship to any of these constructs and were negatively related to a willingness to adapt teaching to culturally diverse students. Findings suggest that multiculturalism is a more beneficial strategy for teaching in culturally diverse settings than egalitarianism.

Keywords: multiculturalism, colorblindness, pre-service teacher, cultural responsive teaching, teacher competence
5 Should teachers be colorblind? How multicultural and egalitarian beliefs differentially relate to aspects of teachers’ professional competence for teaching in diverse classrooms

5.1 Introduction

In recent years, there has been ongoing debate about how to best accommodate the growing cultural diversity that schools around the globe are facing. In Germany, for example, the percentage of youths under the age of 20 with an immigrant background\textsuperscript{13} has already reached 30\% (Statistisches Bundesamt, 2011). While the last decades have seen a fast rise in their numbers, the low academic performance of immigrant students during the same period has remained a sad but stable truth (cp. for example large-scale international assessments like PISA, Organisation for Economic Cooperation and Development, 2004; Stanat & Christensen, 2006). Teachers have been blamed for not providing appropriate support for immigrant students and for contributing to the achievement gap in various different ways (Hachfeld, Anders, Schroeder, Stanat, & Kunter, 2010). Although the exact mechanisms through which teachers’ behaviors might affect immigrant students learning and achievement are not yet clear, the claim has been made that teachers need to be better prepared to teach in multicultural classrooms\textsuperscript{14} (Hollins & Guzman, 2005).

It has been argued by many researchers that teachers’ beliefs about cultural diversity are of utmost importance for teaching immigrant students (Barry & Lechner, 1995; Bryan & Atwater, 2002; Easter, Shultz, Neyhart, & Reck, 1999; Hachfeld, et al., 2011; Harrington & Hathaway, 1995; Middleton, 2002; Pohan & Aguilar, 2001; Stanley, 1996), yet controversy persists as to which beliefs are more beneficial and how different beliefs relate to other aspects of professional competence in the context of cultural diversity. The two beliefs that are at the center of this debate are multiculturalism and egalitarianism, the latter often referred to as colorblindness.

Both multiculturalism and egalitarianism/colorblindness generally reflect positive attitudes towards immigrant students and cultural diversity (cp. Hachfeld et al., 2011; Hahn, Park & Judd, 2010). Egalitarian, or colorblind, beliefs emphasize the importance of treating all people equally, of finding similarities and common ground between students of different

\textsuperscript{13} We refer to students who are foreign-born or have foreign-born parents as immigrant students or students with immigrant backgrounds.

\textsuperscript{14} In this article we use the terms multicultural classrooms/multicultural settings or cultural diversity to describe a context in which a substantial amount of people being involved have a different cultural, ethnic, religious, and/or language background than society’s majority group (cp. Bryan & Atwater, 2002).
cultural backgrounds (Hachfeld, et al., 2011; Hahn, et al., 2010; Markus, Steele, & Steele, 2002; Richeson & Nussbaum, 2004). Multicultural beliefs, on the other hand, entail the idea that group differences and cultural background should be acknowledged and even viewed as enriching (Hachfeld et al., 2011; Hahn et al., 2010; Park & Judd, 2005).

In the past, the egalitarian or colorblind ideal used to be advocated on the societal as well as on the school level (Apfelbaum, Pauker, Sommers, & Ambady, 2010; Plaut, 2010; Richeson & Nussbaum, 2004). Now, teachers in most countries are requested to reflect a multicultural perspective (e.g. the National Council for Accreditation of Teacher Education, NCATE, www.ncate.org) and to teach multicultural awareness (e.g. UNESCO Universal Declaration on Cultural Diversity, www.unesco.org); most teacher education programs include courses on multicultural education (cp. Hollins & Guzman, 2005). Yet, some authors argue that, despite efforts to implement multicultural education, egalitarianism/colorblindness remains the predominant approach in educational settings, based on the rationale that ignoring or downplaying racial differences will lead to greater equality and inclusion (Apfelbaum et al., 2010).

The implementation of multicultural education is likely to be influenced by teachers’ beliefs. Teachers’ cultural beliefs have been called “the “ideological anchors” of teaching decisions and behaviors” (Gay, 2010). In the context of multicultural education, several researchers have argued that teachers’ beliefs shape and are reflected in their instructional practices (Cabello & Burstein, 1995; Milner, 2010) and thus influence children’s opportunities to learn (Milner, 2010). Likewise, teachers’ cultural beliefs should be related to other aspects of teachers’ professional competence for teaching in culturally diverse settings. We have discussed the importance and assessment of teachers’ cultural beliefs elsewhere (Hachfeld, et al., 2011); in the following article we draw on the framework of professional competence of teachers (Kunter et al., in press, Kunter et al., 2007) to investigate the relationship between multicultural and egalitarian beliefs and other aspects of professional competence, specifically targeting teaching of immigrant students.

In the following, we will shortly introduce the framework of professional competence, then discuss research on multicultural and egalitarian-colorblind beliefs, before describing the other aspects of professional competence under investigation. We conclude with our research question and our hypotheses.

5.2 Teachers’ professional competence

The framework of professional competence of teachers conceptualizes teachers’ competence as an interplay between content knowledge, pedagogical content knowledge, generic
pedagogical knowledge, and teachers’ beliefs, values, motivational orientations, and self-regulatory abilities (Kunter et al., in press; Kunter et al., 2007). Figure 2.1 illustrates the different aspects of professional competence.

Figure 5.1
Model of professional competence, specified for teaching in multicultural settings (Hachfeld, Schroeder, Anders, Hahn & Kunter, 2012).

Note: Aspects highlighted in grey are investigated in the present study.

In recent years, research has consistently demonstrated the importance of teachers’ professional knowledge and their beliefs in the provision of high quality instruction (Calderhead, 1996; Woolfolk Hoy, Davis, Pape, 2006). Much research has focused on teachers’ domain-specific knowledge and beliefs. That is, previous studies have investigated teachers’ content knowledge and pedagogical content knowledge, their beliefs about their subject and how this subject should best be taught (e.g. Ball, Lubienski, & Mewborn, 2001; Baumert et al., 2010, Staub & Stern, 2002). Cultural diversity, however, is prevalent in schools across subject and content boundaries, and our aim was to focus on those aspects of professional competence that can be assessed specifically for cultural diversity but are transferable across subjects. In addition to teachers’ knowledge and beliefs, teachers’
motivational orientations, such as their self-efficacy or intrinsic orientations, have been marked out as prerequisites for successful teaching (e.g., Kunter & Förster, 2012; Tschannen-Moran & Woolfolk Hoy, 2001). Again, previous research suggests that these aspects are also context-specific and should be assessed according to the context of interest. In the present study, we therefore assessed all variables explicitly with regard to teaching immigrant students. Independent variables were pre-service teachers’ cultural beliefs. Two aspects of professional competence were the outcome variables: motivational orientations and values. As part of motivational orientations, we assessed pre-service teachers’ self-efficacy and enthusiasm for teaching immigrant students and integrative career motives. For the context of cultural diversity, domain-specific values were operationalized as stereotypes toward immigrant students. As one additional outcome variable, we assessed participants’ willingness to adapt their teaching to a culturally diverse student body. In the following sections, we will discuss research on teachers’ cultural beliefs and our outcome variables.

5.2.1 Teachers’ cultural beliefs

Harrington and Hathaway (1995) point out that “beliefs play a major role in how prospective teachers respond to the diversity they will encounter in their classrooms” (p. 275). They argue that teachers’ approach to multicultural education will reflect their beliefs and their understanding of their own role and what cultural diversity implies. Several researchers have documented how teachers’ theories of knowledge and of how students acquire knowledge may be fundamental components of their instructional planning and delivery (Kagan, 1992; Pajares, 1992; Richardson, 1996). Likewise, teachers’ theories of how cultural diversity should be accommodated may fundamentally influence their motivation to teach and their stereotypes about immigrant students.

Research on the effects of multicultural and egalitarian-colorblind beliefs comes mainly from social-psychological research. Findings from several studies suggest that an emphasis on treating everyone equally might not always be the best solution for minority group members (Park & Judd, 2005; Vorauer, Gagnon, & Sasaki, 2009; Wolsko, Park, Judd, & Wittenbrink, 2000). For the educational context, it has been argued that teachers with egalitarian-colorblind beliefs focusing on similarities might be hesitant to “incorporate teaching materials that represent the diversity among student level” (Richeson & Nussbaum, 2004, p. 418). The usefulness of an egalitarian-colorblind approach for instruction has also been criticized by Milner (2007). He argues that “color-blind and culture-blind teachers often do not possess the racial and cultural knowledge necessary for pedagogical success with highly diverse students” (Milner, 2007, p. 392). But teachers’ beliefs do not only influence their own perceptions and
behaviors but also those of the students as Apfelbaum and colleagues (2010) have shown. The authors primed 11-year old students with either a multicultural or an egalitarian-colorblind prime\textsuperscript{15} before confronting them with scenarios that varied in their evidence of racial bias from weak to strong. Coding of students’ narrative responses showed that students in the egalitarian-colorblind condition were significantly less likely to report instances of racial discrimination even if they were unambiguously present than students in the multicultural condition. Moreover, students in the egalitarian-colorblind condition described the strong racial bias scenario in a manner that did not evoke teachers’ attention to intervene. The authors argue that, instead of promoting equality, an egalitarian-colorblind approach in school might in fact do the opposite by “permitting even explicit forms of racial discrimination to go undetected and unaddressed.” (p. 5). In the Apfelbaum et al. (2010) study, the multicultural and egalitarian-colorblind beliefs were induced via two primes. In real life settings, the beliefs of students are likely to be influenced by the beliefs of the teachers who convey them, consciously or unconsciously, in everyday school practice. Moreover, teachers’ cultural beliefs can manifest themselves in the way they deal with (intercultural) situations. In a German study, Wagner and colleagues investigated the relationship between teachers’ cultural beliefs and their problem-solving strategies in intercultural dilemmas (Wagner, van Dick, Petzel, Auernheimer, & Sommer, 2000). Results showed that teachers with multicultural beliefs displayed more pedagogically useful problem-solving strategies (e.g. discussion in class) than less adequate strategies (e.g. punishment).

In line with Wagner and colleagues, in the present study we assessed participants’ multicultural and egalitarian-colorblind beliefs about cultural diversity in school via questionnaires and investigated their relationship to other aspects of professional competence that served as our outcome variables (more specifically with pre-service teachers’ motivational orientations, values and their willingness to adapt their teaching to a culturally diverse student body).

### 5.3 Motivational orientations

#### 5.3.1 Self-efficacy

Self-efficacy is defined as “the teacher’s belief in her or his capability to organize and execute courses of action required to successfully accomplish a specific teaching task in a particular context” (Tschannen-Moran, Woolfolk Hoy, & Hoy, 1998, p. 233). Based on this definition, self-efficacy beliefs have been associated with various aspects of teaching quality.

\textsuperscript{15} The primes were designed to either induce colorblind or multicultural beliefs in the participants.
Teachers with high self-efficacy beliefs have been shown to plan and prepare their instruction more carefully, to be more open to new teaching methods, and to support their students better (for an overview see Tschannen-Moran & Woolfolk Hoy, 2001). At the same time, teachers’ self-efficacy beliefs have been linked to higher student motivation, self-efficacy, and ultimately, better learning outcomes (Tschannen-Moran & Woolfolk Hoy, 2001). These findings underscore the importance of teachers’ self-efficacy beliefs. However, previous research also stresses the importance of assessing self-efficacy beliefs context-specifically because they may vary from one context to another (Bandura, 1997; Siwatu, 2007, 2008, 2011). Teachers’ specific self-efficacy beliefs regarding teaching in a multicultural context have previously been associated with culturally responsive teaching (Gay, 2002; Siwatu, 2007, 2008, 2011; Siwatu & Starker, 2010). In the present study, we therefore assessed self-efficacy beliefs specifically for teaching immigrant students.

5.3.2 Enthusiasm

Although different definitions of enthusiasm exist, in our study we define enthusiasm as a “relatively stable affective disposition that may be seen as an integral part of teachers’ motivation” (Kunter et al., 2008, p. 468). Different aspects of teachers’ enthusiasm have been shown to be related to higher quality instructional behavior, to students’ motivation, and, in some studies, to students’ learning outcomes (Kunter, Frenzel, Nagy, Baumert, & Pekrun, 2011). In the context of multicultural classrooms, Dee and Henkin (2002) found that pre-service teachers’ interest in cultural diversity was positively related to their attitudes toward implementation of diversity initiatives. Similarly to self-efficacy beliefs, enthusiasm has been shown to be context-specific (Kunter et al., 2011). Accordingly, we assessed enthusiasm specifically for teaching immigrant students.

5.3.3 Career motives

Pre-service teachers differ with regard to their reasons why they opted for the teaching profession in the first place (Young, 1995). Moreover, career motives can be subject to change over the career of a teacher (Schutz, Crowder, & White, 2001). Many authors have pointed out the “political” or “moral” obligation of teachers (“education as political act”, Apple, 2011, p. 229, “teaching as a political activity”, Cochran-Smith, 1995, p. 494). In the context of cultural diversity, this notion of teaching as political act entails a willingness to engage with and integrate students from all (cultural) backgrounds. Yet, not all pre-service teachers share this notion, and research shows that pre-service teachers prefer “urban, but not too urban” schools (Watson, 2011). Referring to the increased cultural diversity in more urban
settings, this attitude reflects that many teacher candidates find this diversity potentially enriching, but only in moderate amounts. In our study, we explicitly asked participants whether they had chosen the teaching profession as a means to integrate and support immigrant students.

### 5.4 Values

The framework of professional competence of teachers explicitly incorporates teachers’ values based on the assumption that values affect teachers’ perception of and behavior towards students (Voss, Kleickmann, Kunter, & Hachfeld, in press). Two important aspects of teacher values about cultural diversity are their stereotypes and prejudices about immigrant students (Hachfeld, et al., 2011). An abundance of literature has looked at the interaction between teacher expectations and students’ racial background (for a meta-analysis see Tenenbaum & Ruck, 2007), pointing out that low expectations are related to low student achievement (Schofield, 2006). It can be assumed that stereotypes about students’ educational engagement and motivation have similar detrimental effects. In Germany, there is little evidence concerning the negative stereotypes and prejudices of German teachers about immigrant students (Schofield, 2006). In the present study, we assessed pre-service teachers’ stereotypes about immigrant students’ motivation to actively engage in school work and their stereotypes about the educational background of immigrant students’ families.

### 5.5 Willingness to adapt teaching to a culturally diverse student body

The approach of *culturally responsive teaching* stresses the importance of incorporating the cultural characteristics, experiences, and perspectives of ethnically diverse students into one’s instructional practices (Gay, 2002). Dee and Henkin (2002) summarize previous research findings showing “positive relationships between higher levels of student achievement among culturally diverse students and teachers who employ culturally responsive instructional strategies” (p.23). In a similar vein, a study by Diaz and colleagues (1992, cited in Ambe, 2006) showed that minority students’ writing skills improved when the topics and issues were related to their communities. To test whether multicultural and egalitarian beliefs differentially relate to instructional practices, we also assessed pre-service teachers’ willingness to adapt their teaching to a culturally diverse student body.

### 5.6 Research question and hypotheses

In sum, previous research has highlighted the importance of teachers’ beliefs about cultural diversity, yet it still remains unclear through which mechanisms different beliefs
unfold their effects. There is a lack of research on the relationship between teachers’ moral values (such as multicultural and egalitarian beliefs) and other aspects of professional competence (Pantić & Wubbels, 2012). Likewise, more research is necessary to answer the question whether some beliefs are “better” than others. Against this background, we applied a quantitative design to investigate whether multicultural and egalitarian beliefs differentially relate to pre-service teachers’ self-efficacy and enthusiasm for teaching immigrant students, their integrative career motives, their stereotypes, and their willingness to adapt their teaching to a culturally diverse student body. We hypothesized that multiculturalism is a more effective strategy compared to egalitarianism. Hence, we hypothesized that strong multicultural beliefs are positively and significantly related to self-efficacy and enthusiasm for teaching immigrant students, more integrative career motives, less agreement with stereotypes, and a higher willingness to adapt one’s teaching. Based on social-psychological research on colorblindness, our hypotheses for egalitarianism were quite different: We expected egalitarian beliefs to be unrelated or even negatively related to our outcome variables. Specifically, based on the findings that egalitarian-colorblind beliefs can lead to reduced acknowledgement of challenges associated with cultural diversity, we believed that pre-service teachers with high egalitarian beliefs would be less willing to adapt their teaching to a culturally diverse student body.

5.7 Method

5.7.1 Participants and procedure

Participants (N = 433) were pre-service teachers taking part in the COACTIV-R study, which was conducted to assess professional competence and development during teacher education in Germany (for more details see Löwen, Baumert, Kunter, Krauss, & Brunner, in press). Teacher education in Germany is divided into two phases: an initial university-based phase and a second induction phase, in which teacher candidates are gradually prepared for classroom teaching. All COACTIV-R participants were in this induction phase. During this 2-year phase, pre-service teachers are expected to acquire the practical knowledge of learning and instruction considered crucial for their profession (Oser, Achtenhagen, & Renold, 2006). They are introduced to the practicalities of teaching under supervision of a mentor.

The study was cross-sectional; questionnaires were sent to participants and were answered at home. Participation was voluntary and participants received monetary compensation. The items relevant for the present study were administered as part of a larger questionnaire
tapping pre-service teachers’ knowledge, beliefs, socio-demographic data, and information on the teacher training program.

Participants (65.3% women, \(n = 277\)) were on average 28.2 years old (\(SD = 4.75; \) range: 23–57 years). Of these, 14.2% (\(n = 60\)) had an immigrant background.

5.7.2 Instruments

5.7.2.1 Multicultural and egalitarian beliefs

The Teacher Cultural Belief Scale (TCBS Hachfeld et al., 2011) was used to assess participants’ endorsement of multicultural beliefs (six items; e.g., “In the classroom, it is important to be responsive to differences between cultures.”) and egalitarian-colorblind beliefs (four items; e.g., “In the classroom, it is important that students of different origins recognize the similarities that exist between them.”). Because we focused on the egalitarian component of colorblindness (Hachfeld et al., 2011, Hahn et al., 2010), we will subsequently refer to this scale as “egalitarianism.” Responses were given on a 6-point scale ranging from 1 (strongly disagree) to 6 (strongly agree). Cronbach’s \(\alpha\) was .75 for the multicultural subscale (\(M = 4.71, SD = 0.59\)) and .78 for the egalitarian subscale (\(M = 4.89, SD = 0.61\)). We developed the two subscales to be conceptually independent but not mutually exclusive (Hahn, et al., 2010; Plaut, 2010). The correlation between the two constructs was \(r(378) = .58, p < .001\), reflecting that both subscales tap positive intentions toward teaching immigrant students.

5.7.2.2 Motivational orientations

As aspects of motivational orientations, we assessed specific self-efficacy (four items, e.g. “I am confident that I can both challenge and support immigrant students appropriately.”), and enthusiasm (two items, e.g. “I enjoy teaching students with an immigrant background.”) for teaching immigrant students. Six items assessed whether or not participants have chosen the teacher profession for reasons of social justice and engagement regarding immigrant students (integrative career motives; e.g. “I have chosen a teaching career to help further the integration of immigrant students.”). Participants responded to each item in a four-point (agree – do not agree) response format. Cronbach’s \(\alpha\) for the three scales were .81, .65, and .92, respectively. Average response was \(M = 3.11 (SD = 0.49)\) for self-efficacy, and \(M = 3.10 (SD = 0.62)\) for enthusiasm for teaching immigrant student, and \(M = 2.38 (SD = 0.73)\) for the career motives scale. The correlation between self-efficacy and enthusiasm for teaching immigrant students was \(r = .44\). The correlation between self-efficacy and career motives was \(r = .22\), and between enthusiasm and career motives \(r = .44\).
5.7.2.3 Stereotypes

Five items measured participants’ negative stereotypes about immigrant students’ motivation to actively engage in school work (e.g.: “Immigrant students are less interested in school-related topics.”). Three items measured participants’ negative stereotypes about the educational background of immigrant students’ families (example item: “Immigrant students often come from families that communicate little school-related knowledge.”). Participants responded to each item on a 6-point scale ranging from 1 (strongly disagree) to 6 (strongly agree). Cronbach’s α of the two stereotypes scales were .88 and .87, for motivation and family background, respectively. Average agreement with the stereotypes regarding motivation was $M = 2.03$ ($SD = 0.84$), and $M = 3.83$ with the stereotypes regarding family background ($SD = 1.13$). The correlation between the two scales was $r = .49$.

5.7.2.4 Willingness to adapt teaching to a culturally diverse student body

A five-item scale assessed whether pre-service teachers are willing to adapt their teaching to a culturally diverse student body (e.g.: “In classes with many minority students, I ask very frequently whether all students are able to follow the lesson.”). Responses were given on a 6-point scale ranging from 1 (strongly disagree) to 6 (strongly agree). Cronbach’s α of the scale was .61, average response was $M = 3.30$ ($SD = .84$).

5.8 Analyses and results

We estimated a fully identified path model using Mplus (Muthén & Muthén, 1998-2006) with the two subscales of the TCBS as predictors and the other scales as outcome variables (see Figure 5.2). We chose a path model to be able to control for the effects of the respective other subscale and to analyze the relationship between the two subscales and the outcomes simultaneously. For the model specification of the multicultural and egalitarian subscales, see Hachfeld et al. (2011). The model fit was evaluated according to criteria suggested by Hu and Bentler (1999). The results are presented in Table 5.1.

The descriptive fit indices of the path model indicated a satisfactory fit, $\chi^2(81) = 158.934$, CFI = .942, TLI = .914, RMSEA = .048, SRMR = .047. The latent correlation between multiculturalism and egalitarianism was within the expected range ($r = .62$). Although we tested a simultaneous model, we will separately present results first for multiculturalism and then for egalitarianism.

5.8.1 Results for multiculturalism

The first column of Table 5.1 shows the results for multiculturalism: The standardized path coefficients show that multiculturalism was positively and significantly related to
participants’ self-efficacy and enthusiasm for teaching immigrant students, participants’ integrative career motives, and their willingness to adapt their teaching. Multiculturalism was negatively and significantly related to stereotypes about family background and motivation of immigrant students. The results imply that the more participants agreed with the multicultural subscale, the more self-efficacy and enthusiasm for teaching immigrant students they reported, and the more they were willing to adapt their teaching to a culturally diverse student body. At the same time, they agreed less with items assessing negative stereotypes toward immigrant students and were more likely to report to have chosen the teaching profession to support immigrant students (career motives).

Table 5.1
Standardized Path Coefficients of Multiculturalism and Egalitarianism on Aspects of Professional Competences.

<table>
<thead>
<tr>
<th>Motivational orientations</th>
<th>Multiculturalism</th>
<th>Egalitarianism</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>( R^2 )</td>
<td>( \beta )</td>
</tr>
<tr>
<td>Self-efficacy (^a)</td>
<td>8.5%</td>
<td>.315</td>
</tr>
<tr>
<td>Enthusiasm (^a)</td>
<td>28.2%</td>
<td>.542</td>
</tr>
<tr>
<td>Career motives</td>
<td>17.8%</td>
<td>.351</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Stereotypes</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Family background (^b)</td>
<td>2.4%</td>
<td>-.179</td>
<td>.086</td>
<td>-2.08*</td>
<td>.048</td>
<td>.088</td>
<td>0.55</td>
<td>2.03</td>
</tr>
<tr>
<td>Motivation (^b)</td>
<td>13.4%</td>
<td>-.308</td>
<td>.076</td>
<td>-4.06*</td>
<td>-.084</td>
<td>.069</td>
<td>-1.23</td>
<td>2.84</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Instructional practices</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Adaptive teaching (^a)</td>
<td>10.6%</td>
<td>.412</td>
<td>.076</td>
<td>5.43*</td>
<td>-.211</td>
<td>.078</td>
<td>-2.70*</td>
<td>16.67*</td>
</tr>
</tbody>
</table>

Note: \(^a\) for teaching immigrant students; \(^b\) of immigrant students; \(^1\) Scale ranged from 1–4; all other scales ranged from 1–6. N = 421, \( *p < .05 \) (two-tailed); \( \Delta \chi^2 \): result of the chi-square difference test between the restricted (equality constrained) and the unrestricted model.

5.8.2 Results for egalitarianism

The second column of Table 5.1 shows the results for egalitarianism. In contrast to multiculturalism, and as expected, there was no significant relationship between egalitarianism and participants’ self-efficacy and enthusiasm for teaching immigrant students, their integrative career motives, and their stereotypes about family background and motivation of immigrant students. Egalitarianism was significantly related only to participants’ willingness...
to adapt their teaching to a culturally diverse student body. Importantly, this relationship was negative: The more strongly participants endorsed egalitarian beliefs, the less willing they were to adapt their teaching to the specific needs of immigrant students and culturally diverse classes. Although the relationship was significant, the standardized path coefficient was only half the size as that for multiculturalism. The next section compares the effects of multiculturalism and egalitarianism.

5.8.3 Comparing effects of multiculturalism and egalitarianism

In a second step, we tested whether differences in standardized paths coefficients for multiculturalism and egalitarianism were also statistically significant. Results are presented in the third row of Table 5.1. To test for differential effects, we set the coefficients of multiculturalism and egalitarianism to be equal for each dependent variable (equality constraints) and tested whether the model fit would decrease significantly compared to the model fit of the unrestricted model ($\chi^2$-difference test). We found statistically significant differences for self-efficacy, enthusiasm, and participants’ willingness to adapt their teaching for a culturally diverse student body: Imposing equality constraints on the effects of multiculturalism and egalitarianism on these three outcome variables decreased the model fit significantly. On the contrary, there was no significant decrease in the fit of the model for integrative career motives, and stereotypes about family background and motivation of immigrant students. The results of the comparative analyses showed that the two beliefs differentially relate to motivational orientations (self-efficacy and enthusiasm for teaching immigrant students) and participants’ willingness to adapt their teaching. Although multiculturalism was significantly related to stereotypes about family background and learning motivation of immigrant students, and egalitarianism was not, the difference in the standardized path coefficients was not statistically significant. Such a result pattern can emerge because the overlap between the confidence intervals of the two variables is independent of whether the coefficients themselves are significantly different from zero. The same pattern was found for integrative career motives: A statistically significant effect for multiculturalism and not for egalitarianism, but no statistically significant difference between the two.

In sum, a multicultural mindset seems to help pre-service teachers feel better prepared to teach immigrant students, be more enthusiastic about it, and be more willing to adapt their teaching to a culturally diverse student body, whereas an egalitarian mindset does not. Egalitarian beliefs of pre-service teachers, on the other hand, were only related to less willingness to adapt their lessons to their students’ cultural backgrounds.
5.9 Summary and Discussion

In the title, we posed the question whether teachers’ multicultural and egalitarian beliefs differentially relate to other aspects of professional competence for teaching in culturally diverse settings. Data from our study suggest a positive answer. The results of our study showed that multicultural beliefs were related to more self-efficacy and more enthusiasm for teaching immigrant students and more willingness to adapt teaching to a culturally diverse student body. Multicultural beliefs were also positively and significantly related to integrative career motives, and negatively and significantly related to stereotypes towards immigrant students. In contrast, egalitarian beliefs were not related to any motivational constructs, and showed a significant negative relationship with willingness to adapt teaching to a culturally diverse student body.
Compared to the other outcomes, our results showed that multiculturalism was especially highly related to enthusiasm for teaching immigrant students. Previous research has already shown that teachers’ enthusiasm is an important aspect of professional competence and can influence students’ motivation (Kunter, in press). Against this background, our findings speak in favor of multiculturalism as a more beneficial teaching strategy in diverse settings as compared to egalitarianism, which was unrelated to pre-service teachers’ enthusiasm. Teachers who are multicultural and more enthusiastic about teaching diverse students might not only motivate their students more, but might also be more motivated to establish caring relationships with culturally diverse students. For non-white students, having a caring relationship with the teacher has been related to higher student motivation and achievement (McAllister & Irvine, 2002). In a similar vein, teachers’ enthusiasm might also be related to empathetic dispositions, which have been shown to lead to more positive interactions with students, supportive classroom climates, and student-centered pedagogy (McAllister & Irvine, 2002).

Multiculturalism was also highly and differentially related to participants’ self-efficacy for teaching immigrant students. Similarly to enthusiasm, previous research on self-efficacy has shown that higher self-efficacy is related to higher instructional quality (Tschannen-Moran & Woolfolk Hoy, 2001). However, self-efficacy is always context-specific. We assessed pre-service teachers’ self-efficacy for teaching immigrant students and our results suggest that multicultural beliefs are related to more self-efficacy in the context of cultural diversity compared to egalitarian beliefs. Again, these findings suggest that multicultural beliefs are more beneficial for teaching in culturally diverse settings than egalitarian beliefs. Considering the growing cultural and racial diversity in today’s schools, teachers must not only be prepared to but also confident and willing to teach immigrant students. However, research shows that most teachers prefer teaching in suburban settings or schools with lower rates of minority students (American Association of Colleges for Teacher Education, 1990; Watson, 2011) and that attrition rates remain a concern of educational administrators (Siwatu, 2011). Teachers with high self-efficacy for teaching immigrant students are likely to be more willing to work in culturally diverse schools and confident about implementing multicultural education (cp. Lewis, 2001). Against this background, teacher preparation should encourage their teacher candidates to reflect on their cultural beliefs and consider multicultural perspectives of teaching instead of trying to be color- and culture-blind.

Participants with high agreement on multiculturalism also evaluated their own instructional practices as being more adaptive for teaching a culturally diverse student body: They
reported more willingness to consider the cultural background of their students; for example, they chose their learning materials respectively. This was not the case for participants with egalitarian beliefs. This reflects what we believe to be a major problem with the egalitarian-colorblind ideal: The ideal to treat all students equally, noble in its intent, can result in a lack of ability to prepare one’s lessons adequately for the challenges of a diverse classroom. Our findings also support the claim made elsewhere that “egalitarian teachers” may not be able to meet the challenge of adapting their teaching to diversity (Organisation for Economic Cooperation and Development, 2010). If teachers are not willing to consider the cultural diversity in their class, they are less likely to provide adequate support for immigrant students, or to assess and evaluate immigrant students’ performance accurately, all of which can lead to systematic discrimination (Hachfeld et al., 2010).

5.9.1 Study strengths and limitations

In this study, we drew from research on the professional competence of teachers to investigate differential relationships of two different but strongly contested beliefs about dealing with culturally diversity in school. Our design expands and complements previous research on multiculturalism and egalitarianism/colorblindness by providing such a framework within which to compare the two beliefs and their relationship with different aspects of professional competence for teaching immigrant students. Two major strengths of the study are the large sample of pre-service teachers and the collection of data in a real-life setting. Additionally, we followed a quantitative approach and assessed pre-service teachers’ beliefs, motivational orientations and values with standardized questionnaires and context-specifically for teaching in culturally diverse settings. In their review for the American Educational Research Association, Hollins and Guzman (2005) call for a larger empirical research base that can be generalized across settings. With this in mind, we combined the model of teachers’ professional competence (Kunter, et al., 2007) with social-psychological research on multiculturalism and egalitarianism/colorblindness to formulate our research questions.

Of course, this approach considerably limits the generalizability of our findings. The first limitation to teaching in culturally diverse settings was deliberate. The second limitation is the reliance on self-reported questionnaire data. Self-report data always carries the risks of socially desirable responding. And although van de Vijver and colleagues have argued that social desirability has little influence on the assessment of multicultural beliefs (van de Vijver, Breugelmans, & Schalk-Soekar, 2008), future studies should incorporate other measures, such as behavioral measures, observations, or student data. Unfortunately, we did
not have access to students’ evaluation of their teachers’ instructional practices. Therefore, for example, we do not know whether teachers’ reported motivation to teach immigrant students is really acknowledged as such by the students. Thus far, research investigating the link between teachers’ beliefs and professional competence, their multicultural instructional practices, and immigrant students’ achievement is scarce. As mentioned above, having a caring relationship with the teacher has been related to higher motivation and achievement of non-white students (McAllister & Irvine, 2002). In a similar vein, employing culturally responsive teaching practices has been linked to higher minority students’ achievement (cp. Dee & Henkin, 2002). In a workplace field study, Plaut and colleagues (Plaut, Thomas, & Goren, 2009) compared the effects of white employees’ diversity beliefs on their minority co-workers’ psychological engagement and found positive effects of multiculturalism compared to what the authors defined as colorblind beliefs. Multiculturalism was associated with higher engagement of minority co-workers and colorblindness with lower engagement. Similar effects are conceivable in the school context.

The second limitation is the cross-sectional nature of the data. Such a design does not allow for causal interpretations. Longitudinal studies are necessary to investigate how teachers’ cultural beliefs influence the development of motivational orientations and values for teaching immigrant students. Nonetheless, our findings provide first evidence that multicultural beliefs are related to positive motivational orientations and egalitarian beliefs are not. Findings from a qualitative study by Bender-Szymanski (2000) provide evidence for a causal interpretation of the relationship between cultural beliefs and self-efficacy: During a 1-year period, participating pre-service teachers with anti-multicultural (“ethno-oriented”) beliefs experienced a decrease in their self-efficacy, whereas participants with multicultural beliefs did not.

A final limitation is the restriction to pre-service teachers in their teaching placement phase. However, we explicitly targeted this group for several reasons. Firstly, as Cochran-Smith (1994) has argued, egalitarianism/colorblindness was often mistaken for educational equity in the past, and pre-service teachers’ egalitarian-colorblind beliefs often only mirror the dominant beliefs of society as they are reflected in teacher education (cp. Castro, 2010; Clarke & Drudy, 2006). In a similar vein, Silverman (2010) emphasizes the need to study teacher candidates who are “not yet fully socialized into the teaching profession” (p. 295). Secondly, Pohan and Aguilar (2001) showed that a multicultural education course positively affected participants’ beliefs, but that the positive effect only held for pre-service and not for practicing teachers. Against this background, we found the focus on pre-service teachers
important. However, we suggest that future research also needs to focus on in-service teachers and their beliefs. More studies using the framework of professional competence are needed to provide further insights into the differential effects of multiculturalism and egalitarianism/colorblindness found in our study.

In conclusion, future studies should incorporate lesson observations, students’ evaluations of their teachers and students’ achievement. Using this data, researchers should study differential effects of teachers’ cultural beliefs on (immigrant) students’ engagement, their learning progress and ultimately school performance. An important task thereby is to identify, for example, how enhanced self-efficacy and enthusiasm for teaching immigrant students translate into day-to-day practices at school and teaching behavior. Moreover, to shed light onto the question of how teachers’ beliefs and professional competence influence the teaching practices and immigrant students’ achievement, more longitudinal studies are necessary. Future studies also need to include teachers at various points in their career and with different experiences of cultural diversity.

5.9.2 Relevance for teacher education

Our study contributes to the discussion on the education and preparation of teachers for cultural diversity (Hollins & Guzman, 2005; Organisation for Economic Cooperation and Development, 2010). The finding that multicultural beliefs are related to more positive motivational orientations to teaching in diverse schools, whereas egalitarian beliefs are not, has practical implications. We argue that, instead of focusing on treating all students equally and ignoring cultural differences, teacher education programs should actively encourage teacher candidates’ to be open to the cultural background of their students. Why are these results important? Previous research has shown that pre-service teachers enter their career disregarding the “enormous, central, and profound influences of color and culture” and adopt an egalitarian ideology (Milner, 2006, p. 352). In their eyes, a fair teacher must be egalitarian or colorblind, treating every student equally (Bryan & Atwater, 2002). However, this approach has also been shown to “backfire” (Apfelbaum et al., 2010). Our results add to the growing empirical evidence supporting multiculturalism as the more beneficial strategy for teaching immigrant students as compared to egalitarianism or colorblindness.

Some researchers have argued that teacher education will only be successful for preparing teachers for diverse classrooms if the programs choose the right candidates (Haberman & Post, 1998). Although previous research has shown that minority group members, for example, often display more multicultural beliefs than their majority counterparts (Castro, 2010; Verkuyten, 2005), we do not agree that only choosing the “right” candidates with the
“right” personality characteristics (e. g. immigrant or minority candidates) is the way to go for the future. First of all, it will not be possible in the near future to recruit as many or as diverse minority teachers as necessary to reflect student composition. Secondly, we have shown elsewhere that multicultural beliefs mediate the relationship between immigrant or minority background and professional competence for teaching immigrant students (Hachfeld et al., 2011). Therefore, we argue that multicultural beliefs are more important than a personal immigrant or minority background. And thirdly, contrary to personal characteristics, which cannot be changed, the beliefs of teacher candidates can be. Social psychological studies have shown positive (at least short term) effects of interventions and trainings on participants’ beliefs, which were in turn reflected in their behaviors in interethnic interactions (Vorauer, et al., 2009; Wolsko, et al., 2000). It is important to point out that there is also evidence that teacher beliefs develop through school and teaching experiences and are not easily changed by single teacher education courses (Richardson, 1996). If the schools are committed to a colorblind ideal, pre-service teachers are likely to take over such beliefs regardless of teacher education (cp. Lewis (2001), who found widespread denials of the salience of race in a school with mainly non-minority students). Ultimately, changes in teacher education can only be successful if schools and society as a whole also change.

The study focused only on pre-service teachers. Pre-service teachers are still at the beginning of their career and are obliged to take further courses for their development. Multicultural education courses are important for developing successful teachers for diverse schools (Milner, 2006), and the induction phase offers an ideal starting point for intervention. While still taking classes, pre-service teachers also gather their first teaching experiences, possibly teaching in diverse settings for the first time. At this point, pre-service teachers might be especially open to scrutinizing and questioning their pre-existing beliefs. At the same time, it is a phase in which existing beliefs might be called into question and conceptual change can occur. Although the last decades have seen growth of the literature on multicultural education, systematic and empirical evaluations of different teacher education programs are still scarce (Hollins & Guzman, 2005). Castro (2010) cites three studies on the effects of multicultural courses on participants’ beliefs (Brown, 2004; Middleton, 2002; Torok & Aguilar, 2000), and comes to the conclusion that the methods of such courses are more important than the content and that the reflection on one’s personal beliefs are an important component. In a similar vein, Cochran-Smith (1995) argues that transmissive teaching styles are per se incongruent with multicultural education. Ladson-Billings (2008, cited in Pollock, Deckman, Mira, & Shalaby, 2010) suggests that shifting educators’ beliefs is “more important than providing concrete
things to do in the classroom” (p. 213). Humphrey et al. (Humphrey, et al., 2006) come to the same conclusion: “We found that facilitating the learning and participation of all pupils is best understood as the adoption of a set of values and principles rather than a series of explicit ‘tips’.” (p. 317).

In conclusion, research suggests that teacher education programs can and must prepare future teachers for culturally diverse populations. The cultural beliefs of pre-service teachers and their ability for reflection are important starting points (cp. also Milner, 2006). As Haberman and Post (1998) have stated: “the most important source of teacher development is their ideology.” (p. 100). The current study showed that teachers’ beliefs of multiculturalism and egalitarianism are differentially related to teachers’ motivational orientations, their stereotypes, and their adaptive teaching behaviors for teaching immigrant students. Results support the growing literature in favor of multiculturalism. Engaging teacher candidates in an active discourse on multiculturalism remains a challenging task for future teacher education programs, because how teachers address cultural differences ultimately influences students’ learning (Davis Lenski et al., 2005).

Authors note
The COACTIV-R research project at the Max Planck Institute for Human Development was funded by the Max Planck Society’s Strategic Innovation Fund (2008–2010). The authors thank Jennifer L. Hesse and Susannah Goss for their editorial assistance.
5.10 References


Wolsko, C., Park, B., Judd, C. M., & Wittenbrink, B. (2000). Framing interethnic ideology: Effects of multicultural and color-blind perspectives on judgments of groups and indi-


Studie 4: Herkunft oder Überzeugung?
Welche Rolle spielen der Migrationshintergrund und multikulturelle Überzeugungen für das Unterrichten von Kindern mit Migrationshintergrund?

http://dx.doi.org/10.1024/1010-0652/a000064
**Zusammenfassung**


*Stichworte:* Lehramtsanwärter mit Migrationshintergrund, professionelle Kompetenz, motivationale Orientierungen, Werthaltungen, kulturelle Überzeugungen, Multikulturalismus
Gesamtdiskussion
7 Gesamtdiskussion


Im Folgenden werden zunächst die zentralen Befunde der Arbeit zusammengefasst und anschließend mit Blick auf ihren Beitrag zu Praxis und Lehrerforschung beleuchtet. Abschließend werden weiterführende Fragestellungen für zukünftige Studien dargelegt und das Problem der Fachabhängigkeit der vorliegenden Arbeit diskutiert.

7.1 Zentrale Befunde der Arbeit

(a) Relevanz der kulturellen Überzeugungen

Welche Relevanz die kulturellen Überzeugungen für das Unterrichten in kulturell heterogenen Kontexten haben könnten, zeigte sich in verschiedenen Teilstudien der vorliegenden Arbeit, insbesondere jedoch in der ersten und vierten Teilstudie.

signifikante Unterschiede in den Lösungswahrscheinlichkeiten für die sprachlich komplexe Aufgabe: Schüler(innen) nichtdeutscher Herkunftssprache lösten diese Aufgabe signifikant seltener als Schüler(innen) deutscher Herkunftssprache unabhängig vom Migrationshintergrund. Diese Unterschiede in den Lösungswahrscheinlichkeiten für die sprachlich komplexe Aufgabe spiegelten sich nicht in den Leistungsvorhersagen der Lehrkräfte wider.


Von welch zentraler Relevanz insbesondere die multikulturellen Überzeugungen sein können, konnte in Teilstudie 4 gezeigt werden. In dieser wurden Lehramtsanwärter(innen) mit und ohne Migrationshintergrund hinsichtlich ihrer multikulturellen Überzeugungen, ihrer motivationalen Orientierungen und ihrer Werthaltungen untersucht. Die Stichprobe umfasste 433 Teilnehmende, davon 60 mit Migrationshintergrund. Die deskriptiven Ergebnisse bekräftigten zunächst die Annahme, dass Lehramtsanwärter(innen) über höhere Selbstwirksamkeitserwartungen und höheren Enthusiasmus für das Unterrichten von Schüler(innen) mit

(b) Erfassung der kulturellen Überzeugungen

Bisher wurden die kulturellen Überzeugungen in der pädagogischen Psychologie hauptsächlich als globale Einstellungen zur multikulturellen Gesellschaft mit den Endpunkten Integration einerseits und Assimilation und Segregation andererseits erfasst (van Dick, Wagner, Adams & Petzel, 1997). Die Autor(inn)en des Modells interethnischer Ideologien hingegen argumentieren, dass sich die kulturellen Überzeugungen auf zwei Dimensionen beschreiben lassen, die orthogonal zueinander stehen und zusammengenommen eine Vierfeldertafel ergeben (Hahn et al., 2010). Die eine Dimension beschreibt die Wertschätzung, die kultureller Vielfalt entgegengebracht wird, die zweite die Wichtigkeit und Betonung

In Teilstudie 2 wurde die Messinvarianz zwischen Gruppen mit unterschiedlicher Dauer der Lehrerfahrung (Teilnehmende zu Beginn und zum Ende ihrer Vorbereitungszeit) und in verschiedenen Schulformen (als Annäherungsmaß für die kulturelle Heterogenität der Schülerschaft) in Mehrgruppen konfirmatorischen Faktorenanalysen untersucht. Die Ergebnisse ließen sowohl für Schulform als auch für Referendariatskohorte die Annahme auf Messinvarianz zu; d.h., die Subskalen des *TCBS* messen in allen Substichproben dieselben Konstrukte. Interessant sind jedoch auch die Mittelwertvergleiche zwischen den verschiedenen Gruppen: So stimmten Lehramtsanwärter(innen) an Real- und Hauptschulen gleichzeitig multikulturellen und egalitären Überzeugungen mehr zu als Lehramtsanwärter(innen) an Gymnasien. Ebenfalls stimmten Lehramtsanwärter(innen) mit Migrationshintergrund multikulturellen Überzeugungen mehr zu als Lehramtsanwärter(innen) ohne Migrationshintergrund. Die Ergebnisse könnten dafür sprechen, dass die eigenen Erfahrungen mit kultureller Heterogenität auch zu multikulturelleren Einstellungen führen; eine Überprüfung dieser Annahme war aufgrund der Daten jedoch nicht möglich.

In einer Zusatzerhebung wurde in Teilstudie 2 die Faktorenstruktur der *TCBS* erneut überprüft und die konvergente und divergente Validität der Subskalen getestet. An der Zusatzerhebung von Teilstudie 2 haben 340 Lehramtsstudierende und Studierende der Erziehungswissenschaft teilgenommen, die eine obligatorische Vorlesung über Deutsch als


(c) Auswirkungen der kulturellen Überzeugungen


chologischen Studien, in denen häufig von einem Zusammenhang zwischen egalitäre
überzeugungen und Vorurteilen ausgegangen wird.

Die Zusatzerhebung in Teilstudie 2 gab zusätzliche Hinweise auf differenzielle Zusam-
menhänge von multikulturellen und egalitären Überzeugungen mit Einstellungen zur
Akkulturation (van Dick et al., 1997) und zu Pluralismus (Stanley, 1996) und mit schulbezo-
genem Autoritarismus (Petzel et al., 1997). Erwartungsgemäß ging die Zustimmung zu
multikulturellen Überzeugungen mit einer höheren Zustimmung zu integrativen Akkulturati-
oneinstellungen einher und mit einer stärkeren Ablehnung von Autoritarismus, wohingegen
Egalitarismus keine signifikanten Zusammenhänge mit diesen Kriterien zeigte. Von
besonderem Interesse für den pädagogischen Kontext ist der Befund, dass multikulturelle
Überzeugungen negativ mit schulbezogenem Autoritarismus zusammenhingen. Dies ist
insofern interessant, als dass die autoritaristischen Einstellungen von Lehrkräften bereits mit
einem „autokratisch-autoritären Führungsstil“, einer „pessimistischen Auffassung von
Urteilsfähigkeit und Lernwillen“ der Schüler(innen) und einem „streng dirigierenden
Unterrichtsstil“ in Verbindung gebracht wurden (Petzel et al., 1997, S. 292). Mit einem
„streng dirigierenden Unterrichtsstil“ unvereinbar ist die Bereitschaft, den Unterricht auf eine
culturell heterogene Schülerschaft anzupassen. Diese wurde in Teilstudie 3 erfasst.
Erwartungsgemäß fand sich ein positiver Zusammenhang mit multikulturellen Überzeugun-
gen, wohingegen der Zusammenhang mit Egalitarismus signifikant negativ ausfiel.

In Teilstudie 3 wurden die Ergebnisse in Hinblick auf ihre Bedeutung für das Unterrichten
von Schüler(inne)n mit Migrationshintergrund diskutiert. Sowohl Selbstwirksamkeitserwar-
tungen als auch der Enthusiasmus gelten als wichtige Aspekte professioneller Kompetenz,
deren Einfluss auf die Unterrichtsqualität und die Motivation der Schüler(innen) in früheren
Studie bereits gezeigt werden konnten (für Selbstwirksamkeitserwartungen vgl. Tschannen-
dieser Studie wird in Teilstudie 3 die Schlussfolgerung gezogen, dass Lehramtsanwär-
ter(innen), die multikulturellen Überzeugungen mehr zustimmen, eine höhere professionelle
Kompetenz mitbringen als Lehramtsanwärter(innen) die egalitären Überzeugungen mehr
zustimmen.

7.2 Beiträge zur Praxis

Neben ihrem wissenschaftlichen Beitrag, der Übertragung eines in der Sozialpsychologie
theoretisch fundierten und empirisch überprüften Modells in die pädagogische Forschung,
leistet die Arbeit auch einen Beitrag zur Praxis: können die Befunde doch teilweise als
Erklärung herangezogen werden, in welchem Maße eine Lehrperson z. B. den ihr rechtlich
garantierten pädagogischen Spielraum ausschöpft, um auf Bedürfnisse einer kulturell heterogenen Schülerschaft ein- und mit (interkulturellen) Problemsituationen umzugehen.


7.3 Beiträge zur Lehrerbildung


### 7.4 Zukünftige Forschungsfragen

Die vorliegende Arbeit leistet insbesondere durch die Entwicklung der *TCBS* einen großen Beitrag zu zukünftiger Forschung. Gleichzeitig wirft die Arbeit weitere Forschungsfragen auf, die sich u. a. aus zugrunde liegenden Annahmen ergeben, wie sie in Kapitel 2 angesprochen wurden. In Abbildung 7.1 sind die noch offenen, schematisch dargestellten Forschungsfragen markiert.

Die *TCBS* erfasst die multikulturellen und egalitären Überzeugungen von Lehrpersonal reliabel und valide. Dabei ist die *TCBS* ein relativ kurzes, quantitatives Messinstrument mit nur 10 Items und von daher sehr gut geeignet, die kulturellen Überzeugungen auf ökonomische Weise in Studien mit großen Stichproben zu erfassen. Durch diesen Ansatz hebt sich die Arbeit hervor und erweitert den methodischen Zugang in einem Forschungsfeld, das bisher in besonderem Maße durch qualitative Fallstudien geprägt ist (für eine Übersicht der deutschen Forschung vgl. Kapitel 2.3.2). Der positive Zusammenhang zwischen den beiden Subskalen Multikulturalismus und Egalitarismus ($r = .54$, vgl. Kapitel 4.8) unterstreicht ihre Gemeinsamkeit, die sich theoretisch auf einer geteilten Wertschätzung kultureller Vielfalt gründet.


Abbildung 7.1


zusammenhängen und in diesem Sinne einen Einfluss auf die Leistungsstreuung nehmen könnten.


7.5 Einschränkungen und Ausblick


7.5.1 Fachunabhängigkeit der kulturellen Überzeugungen


7.5.2 Ausblick


Die Ergebnisse der vorliegenden Arbeit können als Ansatzpunkte genommen werden, um die Lehrerausbildung in Zeiten kultureller Vielfalt zu verbessern. Insgesamt sprechen die Ergebnisse dafür, dass in der Ausbildung bereits für das Thema sprachliche und kulturelle Heterogenität sensibilisiert werden muss und Lehramtsanwärter(innen) lernen sollten, ihre eigenen Überzeugungen diesbezüglich kritisch zu hinterfragen.

In Hinblick auf das Unterrichten in multikulturellen Klassen fanden Humphrey et al. in ihrer europäischen Vergleichsstudie, dass „facilitating the learning and participation of all
7.6 Literatur


8 Gesamtliteraturverzeichnis


color-blind racial ideology and multicultural counseling competencies. Cultural Divers-
ity and Ethnic Minority Psychology, 12, 275–290. doi: 10.1037/1099-9809.12.2.275

Journal of Teaching and Teacher Education, 13, 245-258. doi: 10.1016/S0742-
051X(96)00019-4

Organisation for Economic Cooperation and Development. (2004). Messages from the


Oser & J. Oelkers (Hrsg.) Die Wirksamkeit der Lehrerbildungssysteme. Von der All-
rounderbildung zur Ausbildung professioneller Standards (S. 67-96). Zürich: Rüegger
Verlag.

schweizerischen Lehrerbildung erworben? Erste empirische Ergebnisse. Beiträge zur
Lehrerbildung, 15, 210-228.

Old research demands and new pathways. Rotterdam, The Netherlands: Sense Pub-
lishers.

Banks & C. A. McGee Banks (Eds.), Handbook of Research on Multicultural Educa-

Pajares, M. F. (1992). Teachers' beliefs and educational research: Cleaning up a messy

Pantić, N. & Wubbels, T. (2012). Teachers’ moral values and their interpersonal relationships
with students and cultural competence. Teaching and Teacher Education, 28, 451-460.

Park, B. & Judd, C. M. (2005). Rethinking the link between categorization and prejudice
within the social cognition perspective. Personality and Social Psychology Review, 9,
108-130. doi: 10.1207/s15327957pspr0902_2

Theorien, Befunde und Interventionen. Weinheim: Beltz.


autoritaristischer Einstellungen von Lehrerinnen und Lehrern auf ihr Verhalten in kon-


Danksagung


Erklärung


Berlin, im Oktober 2012
Lebenslauf

Der Lebenslauf wurde aus datenschutzrechtlichen Gründen entfernt.