

Diversity and Discrimination in Research Organizations

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Diversity and Discrimination in Research Organizations

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Contents

List of Figures	ix
List of Tables	xi
About the Contributors	xiii
Foreword	xix
Acknowledgments	xxv

Introduction

Chapter 1 Diversity and Discrimination in Research Organizations: Theoretical Starting Points <i>Jörg Müller, Clemens Striebing and Martina Schraudner</i>	3
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Part I: Empirical Findings of Discrimination in Research Organizations

Chapter 2 The Psychological Work Climate of Researchers: Gender, Nationality, and Their Interaction with Career Level and Care for Children in a Large German Research Organization <i>Clemens Striebing</i>	33
Chapter 3 Workplace Bullying in Academia: Interaction of Gender, Nationality, Age, and Work Context of Scientific and Non-Scientific Employees in a Large German Research Organization <i>Clemens Striebing</i>	75

Chapter 4 Exploring Gender Aspects of Self-Reported Bullying and Sexual Discrimination <i>Clemens Striebing</i>	131
Chapter 5 The Hidden Problem: Sexual Harassment and Violence in German Higher Education <i>Heike Pantelmann and Tanja Wälty</i>	209
Chapter 6 Eliminating Bullying in the University: The University of Wisconsin-Madison's Hostile & Intimidating Behavior Policy <i>Jennifer Sheridan, Russell Dimond, Tammera Klumpyan, Heather M. Daniels, Michael Bernard-Donals, Russell Kutz and Amy E. Wendt</i>	235
Chapter 7 Gender Differences in the Scientific Achievement of Social Sciences and Impact Factors: A Survey Study of Researchers in the Social Sciences in Vietnam <i>Huu Minh Nguyen, Thi Hong Tran and Thi Thanh Loan Tran</i>	259
Part II: Cultural Context Conditions of Academia for Diversity and Discrimination	
Chapter 8 Beliefs About Gender and Meritocracy and the Evaluation of Sexual Harassment in a University Research Setting <i>Julie A. Kmec, Lindsey T. O'Connor and Shekinah Hoffman</i>	289
Chapter 9 Managerial Discourse as Neutralizer? The Influence of the Concealment of Social Categories on the Experience of Workplace Bullying in Research Organizations <i>Agnès Vandevælde-Rougale and Patricia Guerrero Morales</i>	331
Chapter 10 Perceiving Diversity – An Explorative Approach in a Complex Research Organization <i>Linda Steuer-Dankert and Carmen Leicht-Scholten</i>	365
Chapter 11 Intersectionalities and Perceived Discrimination in German Research Organizations: A Post-Soviet Migrant Women's Perspective <i>Irina Valerie Gewinner</i>	393

Conclusion

**Chapter 12 Promoting Diversity and Combatting Discrimination
in Research Organizations: A Practitioner's Guide**

*Clemens Striebing, Jörg Müller, Martina Schraudner,
Irina Valerie Gewinner, Patricia Guerrero Morales,
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Linda Steuer-Dankert, Lindsey Trimble O'Connor and
Agnès Vandavelde-Rougale* 421

Index 443

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List of Figures

Fig. 1	Conditional Differences Between the Estimated Marginal Means for the Hypothetical Relationships of Group Climate. 95% Confidence Interval	51
Fig. 2	Conditional Differences Between the Estimated Marginal Means for the Hypothetical Relationships of Perception of Leader. 95% Confidence Interval	53
Fig. 3	Gender-related Conditional Differences Between the Estimated Marginal Means for the Hypothetical Relationships of Scientific Staff's Self-ascription to Occasional or More Frequent Bullying (Yes/No). 95% Confidence Interval	98
Fig. 4	Nationality-related Conditional Differences Between Estimated Marginal Means for the Hypothetical Relationships of Scientific Staff's Self-ascription to Occasional or More Frequent Bullying (Yes/No). 95% Confidence Interval	103
Fig. 5	Gender- and Age-related Conditional Differences Between Estimated Marginal Means for the Hypothetical Relationships of Non-scientific Staff's Self-ascription to Occasional or More Frequent Bullying (Yes/No). 95% Confidence Interval	109
Fig. 6	Regression Coefficients of the Interaction Effects of the NAQ-rev Items With Gender, Related to the Self-ascription to Having Been Bullied Occasionally or More Frequently (Yes/No), Model 4. 95% Confidence Interval	152
Fig. 7	Positioning of the NAQ-rev Items According to Their Descriptive Mean Values (Their Relative Frequency) and Their Parameter Estimates for the Interaction With Gender (Taken From Model 4)	154
Fig. 8	Regression Coefficients of the Interaction Effects of the SEQ-DoD Items With Gender, Related to the Self-ascription of Having Experienced Sexual Discrimination and/or Harassment, Occasionally or More Frequently (Yes/No), Model 4	157
Fig. 9	Positioning of the SEQ-DoD Short Items According to Their Descriptive Mean Values (Their Relative Frequency) and Their Parameter Estimates for the Interaction With Gender (Taken From Model 4)	158

Fig. 10	How Seriously is HIB Treated on Campus? Change in Mean From 2016 to 2019	249
Fig. 11	How Effective is HIB Complaint Process? Change in Mean From 2016 to 2019	250
Fig. 12	Personal Experience of HIB at Least Once in Past Three Years: Faculty	251
Fig. 13	Personal Experience of HIB at Least Once in Past Three Years: Academic Staff	251
Fig. 14	Percentage of Principal Investigators in Ministry or Higher-level Research Projects by Sex	268
Fig. 15	Mean Number of Scientific Publications by Sex	269
Fig. 16	Entrepreneurial Frame: Sub-systems and Their Functional Tasks (After Aretz and Hansen, 2003a)	372
Fig. 17	Influencing Factors on a Research Organization (Steuer et al., 2017a)	376
Fig. 18	Organizational Structure of the Second Funding Phase (in Accordance With RWTH Aachen University, 2011; Steuer-Dankert and Leicht-Scholten, 2019)	379
Fig. 19	Clusters Perceived Diversity and Perceived Importance of Diversity (Steuer-Dankert, 2020)	383
Fig. 20	Cluster Perceived Importance of Diversity and Perceived Benefit of Diversity	384
Fig. 21	Clusters Perceived Importance of Diversity and Leadership Style at the Research Institute (Steuer-Dankert, 2020)	385
Fig. 22	Building Blocks of a Coherent and Comprehensive Program to Ensure a Discrimination-Free and Diversity-Friendly Workplace	424

List of Tables

Table 1	Chart of Risk Factors for Harassment and Responsive Strategies (Copied in a Shortened Version From US EEOC, 2021)	15
Table 2	Comparison of Various Employee Groups at the MPG, as a Proportion of the Survey Population (According to HR Statistical Data), and as a Proportion of Respondents	44
Table 3	Descriptive Statistics of the Outcome Variables for the Performed Analyses	46
Table 4	Descriptive Statistics of the Predictor Variables for the Analyses Performed	47
Table 5	Interpretation of the Hypotheses According to Effect Sizes	56
Table 6	Cross-tabulation of the Proportion of the Respective Nationality Groups of Researchers in the Sections of the Max Planck Society ($n = 3,904$)	87
Table 7	Descriptive Statistics of Outcome, and Predictor Variables in the Two Regression Models.	93
Table 8	Test Statistics for $H2$	99
Table 9	Test statistics for $H3$	100
Table 10	Test Statistics for $H4$	101
Table 11	Test Statistics for $H6$	104
Table 12	Test Statistics for $H7$	106
Table 13	Test Statistics for $H9$	110
Table 14	Test Statistics for $H10$	111
Table 15	Test Statistics for $H11$	112
Table 16	Interpretation of the Hypotheses According to Effect Sizes	113
Table 17	Descriptive Statistics of Dependent, Independent, and Control Variables in the Two Regression Models	141
Table 18	Introduction of the Question and Queried Items on the Frequency of Self-reported Experiences With Workplace Bullying.	144
Table 19	Introduction of the Question and Queried Items on the Frequency of Self-reported Experiences With Sexual Discrimination.	146
Table 20	Model Summary Statistics for the Estimation of the Average Proportion of MPG Employees Who Self-label as Having Been Bullied	150

xii List of Tables

Table 21	Statements by Individuals Who Stated They Had Experienced Bullying in the 12 Months Prior to the Survey, Categorizing the People From Whom the Bullying Originated, Differentiated by Gender	154
Table 22	Model Summary Statistics for the Estimation of the Average Proportion of MPG Employees Who Self-label as Having Been Sexually Discriminated Against	155
Table 23	Statements by Individuals Who Stated They Had Experienced Sexual Discrimination and/or Harassment in the 12 Months Prior to the Survey, Categorizing the People From Whom the Bullying Originated, Differentiated by Gender	159
Table 24	Interpretation of the Hypotheses	160
Table 25	Timeline for HIB Policy and Measurement at UW-Madison	242
Table 26	Response Rates, Climate Surveys	243
Table 27	Improved Knowledge of HIB by Workshop Attendees	245
Table 28	Knowledge Gains for HIB Workshop Attendees	246
Table 29	HIB Knowledge on UW-Madison Campus	248
Table 30	Percentages of Female Scientists Who Received PhD Degree and Were Granted a Title of Associate Professor and Full Professor by Year	261
Table 31	Main Characteristics of Interviewed Researchers by Sex (%)	267
Table 32	Percentage of Principal Investigators in Ministry or Higher-level Projects by Respondent Characteristics	270
Table 33	Factors Having an Impact on Being Principal Investigators in Ministry or Higher-level Projects (Logistic Regression Results)	271
Table 34	Mean Number of Scientific Publications by Respondent Characteristics	273
Table 35	Factors Having an Impact on the Number of Scientific Publications (MCA Analysis)	274
Table 36	Sample Descriptives (Mean, Standard Deviation), $n = 210$	302
Table 37	Perception of Engineering Culture, $n = 210$	305
Table 38	Multinomial Logistic Model Predicting Reaction to Mark and Sally's Interaction With Gender Belief Scales (Columns A and B) and Merit Scale (Columns C and D), $n = 210$ (Beta Coefficients)	306
Table 39	Socio-Demographic Characteristics of the Respondents	400

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Foreword

We all know that science is about asking deep questions and finding answers through appropriate methodologies and rigorous academic analysis:

The women did what they were told to do. They didn't ask questions or take the task any further. I asked questions; I wanted to know why. They got used to me asking questions and being the only woman there.

These words by Katherine Johnson, famous black mathematician at NACA-NASA 1953–1986, illustrate the spirit of inquiry that drives research activity and leads to gaining deeper understanding of the phenomena that surround us. One could easily replace the word “women” with “men,” or “African,” or any other name expressing humankind, and the sentence is equally as meaningful. The spirit of inquiry is ubiquitous in humankind regardless of country of origin, race, sexual orientation or social condition.

It is an honor for me to write this foreword for co-editors Dr Clemens Striebing, Dr Jörg Muller, and Prof. Dr Martina Schraudner, as they are bravely dedicating many years of their lives as scientists to comprehending the nuances of the complex interrelations between factors at play in discrimination, and using their knowledge to promote diversity in academic environments. Why do I say that their research activity is brave? On the one hand, because this is one of the research fields in which “hard data” are not easy to collect, that is, often it is not even legal to ask factual gender-related data. On the other hand, because there are important “soft factors” at play, that is, education, personal and social circumstances, therefore making data difficult to interpret. Moreover, as the co-editors say in their theoretical starting points, “discrimination has become more subtle while still producing adverse effects for disadvantaged social groups.” There is no capacity to act on discrimination and diversity if problematic situations are covered up or escape the attention of institutional leadership.

I met Dr Striebing through Dr Elizabeth Pollitzer, Founder and Director of Portia, Coordinator of the GenSET project (European Commission, Framework Programme 7) which established the Gender Summits (GS). I had been collaborating with Dr Pollitzer on gender actions in universities as part of my work as Director for Research and Innovation at the European University Association (EUA). Dr Striebing was one of the GS17 participants (October 3–4, 2019), where I presented for the first time the work of Science Europe on gender

in my third week as its Secretary General. Later, he invited me to moderate a session that was part of GS21 (April 14–16, 2021). We discussed with a panel of experts the challenges and requirements for the development of a standardized survey across Europe to capture gender-sensitive working conditions in research and innovation. Among other conclusions, the discussion clarified the limitations in developing appropriate and reliable benchmarks and highlighted the need to find new ways of including softer factors for policy development, in a way that would allow better comparisons.

Readers will find in this book a collection of rigorous scientific studies on sensitive issues that can lead to discrimination in the workplace in academia or be interpreted as discriminatory behavior. I can see how the outcomes of the discussion held in April 2021 were taken into account in the conduct of these studies: they have integrated into their analysis the “hard” and “soft” aspects in their surveys to produce a series of refined lessons for developing policies targeting discrimination in academia and promoting inclusion and diversity in healthy research environments.

There are many dimensions and intersections in diversity and discrimination issues in academia. Nowadays, many European universities and research organizations are reviewing their policies to include, in addition to gender issues, policies for broad social inclusiveness (ethnicity, disability, sexual orientation – LGBTIQ+ social background, etc.). Science Europe works toward an inclusive research culture (I will come back to this point at the end of the preface), yet our experience so far is mainly on gender.

Let me put this work in the context of my experience on gender equality in European universities and in research funding and performing organizations:

In broad terms, the figures tell us that there is a low percentage of female university leaders, that is, rectors and vice-rectors (18–30% according to EUA figures, 2021), compared with the apparent balanced ratio of female/male doctoral candidates throughout European countries (between 40% and 60% according to Eurostat, no field distinction). In order to promote the role of women in leadership positions in the academic sector and advocate gender equality in higher education and research, a group of women rectors, almost all former members of the EUA Board, created in 2015 the European Women Rectors Association (EWORA). Their regular workshops and conferences are an excellent example of how women leaders can support other women in academia.

For its part, Science Europe published in January 2017 its “Practical guide to improving equality in research organizations.” The guide provided recommendations to research funding and performing organizations in order to: (i) minimize unconscious bias in peer-review processes for project selection and career promotion; (ii) monitor gender equality; and (iii) improve grant management practices from the gender perspective. These recommendations were extracted from policies and experiences of numerous Science Europe members who conscientiously analyzed their gender policies to propose common European guidelines. The recommendations and case studies in the guide fed several projects on gender-sensitive issues funded by the Framework Programmes of the European Commission, namely GENPORT (FP7), ACT (Horizon 2020)

and GENDERACTION (Horizon, 2020). Specifically, Science Europe has been a member of FORGEN, one of the “community of practices” set up in the framework of ACT.

These projects, as well as others funded by the European Commission have been instrumental in sparking and disseminating awareness of gender issues in universities, research centers and the entire academic sector across Europe. In this respect, Science Europe welcomed the initiative of the European Commission to meet the conditions in the Gender Equality Plan as an eligibility criterion for receiving funds from the Framework Programme. I see this as an achievement of many years of work in European Research Area (ERA) policies, in which gender has always been a priority addressed by the European Institutions and pan-European stakeholders such as EUA and Science Europe. I am convinced that this policy will contribute to eliminating gender inequalities, help raise awareness and address intersectoral socio-economic inequalities throughout research and innovation systems.

At global level, hallmark days such as the *International Day of Women and Girls in Science* and the *International Women's Day* are milestones in achieving recognition of the need to address the specificities of women in research and beyond worldwide. The Global Research Council (GRC) – a virtual organization, comprised of the heads of science and engineering funding agencies from around the world, dedicated to promoting the sharing of data and best practices for high-quality collaboration among funding agencies worldwide – published in 2016 its “Statement of Principles and Actions: Promoting the Equality and Status of Women in Research.”

Science Europe is co-chairing the Working Group that the GRC set up in 2017 to contribute to the implementation of these principles. It supports the participation and promotion of women in the research workforce, and the integration of the gender dimension in research design and in the analysis of research outcomes. Regarding the monitoring of gender data, a report that the GRC Gender Working Group published in May 2021 indicated that while over 80% of the funding organizations worldwide collected gender-related data in project-funding applications, only a small number of funders collected data related to the other aspects of the grant management process (and these were mainly in Europe).

Discrimination in academia is detrimental first and foremost to researchers experiencing it, as it affects their mental health. It can also affect colleagues who notice the discrimination and may find themselves in awkward positions, having to choose between being silent witnesses or risk violent treatment themselves if they speak up. Beyond the emotional suffering, there are long term consequences for the careers of researchers, as the adverse conditions may affect their scientific performance.

An important area where universities and research funding and performing Organizations can have a strong impact in promoting equality, diversity, and inclusion (EDI) is through the processes that they use to assess and evaluate researchers and research. Between 2019 and 2020, Science Europe conducted an extensive study of the assessment processes of its members, in order to produce recommendations at institutional level. The study showed that bias,

discrimination, and the unfair treatment of researchers and research projects were central concerns for research organizations. The potential bias that was most often monitored was gender (by 82% of surveyed organizations). Ethnicity and disability were monitored by 31% and 25% of organizations respectively. Science Europe recommended collecting more data to take account of all possible types of bias and discrimination in assessment processes, and also to consider their interconnected nature. In addition, it recommended regular training and guidance on EDI to all research staff and reviewers involved in research assessment processes, as well as continuously evaluating assessment processes against all possible sources of bias. Furthermore, it promoted diversity in evaluation panels and expert reviewer pools that inform assessments.

I find this book to be in line with these recommendations, offering excellent in-depth analysis of the available data and going deeper into the soft aspects of discrimination and diversity to end with a series of nuanced recommendations to both institutional policy makers and research managers. Institutional policy makers strive for policies that can be properly implemented and that fulfill the objectives for which they were created. In this context, defining specific objectives and defining clear positive behaviors, expectations and consequences are essential. Research managers need all possible support and training from their institutional leadership to implement policies effectively.

The three recommendations for policy makers, two recommendations for research managers and the six lessons learned, are not just ready-to-implement advice: The “practitioner’s guide” invites all of us to reflect upon our own perceptions on team processes, on how idealistic or realistic our perspectives on diversity and discrimination are, and on the limits between the institutional and other policies, for example, government policies.

The studies in this book merge hard and soft factors in their analysis on discrimination and diversity, including very sensitive aspects such as implicit or explicit violence toward an individual or a group of individuals due to being “different” from what is considered normal in a research unit, department or institution. While there can be cases of discrimination clearly related to a condition (sometimes intersectional), for example, black and poor women, LGTBI and disabled people, etc., I wonder if typical pressures related to research career progression such as the need to meet certain objectives as in the “publish or perish” dilemma, precarious career paths, and poor reward and incentive systems, should not be an additional factor worth adding in the intersectionality approach.

This brings me to my final point of this foreword: the need to reflect on the research culture(s) in academic environments to foster healthy academic environments

that improve the conditions for researchers and research alike by further advancing European and global research systems towards a more sustainable, attractive, and effective research system. (Science Europe Position Statement on Research Culture – November 2021).

Furthermore, Science Europe strives for an ERA

that focusses on the quality of the research process, full support of scientific autonomy, and the promotion of diversity and inclusion, acknowledging that these conditions will, in turn, foster a productive research system. We envisage a research culture in the European Research Area where a) all participants in the research endeavor are appropriately recognized for their diverse contributions, b) the broad skills and competencies of researchers are fostered and supported by suitable training, appropriate infrastructure, and responsible management and governance, c) research integrity and high ethical standards are promoted effectively, and d) careers in research are attractive and sustainable.

Through the series of studies and their authors' thorough analysis and thinking, this book goes beyond the state-of-the-art in making recommendations for policy makers and research managers, and sets the basis for the design of new group discrimination and diversity policies, creating a fine balance between too general measures, for example, one-size-fits-all policies, and too individualized case treatment. In this vein and in line with the vision above, Science Europe will take into account these recommendations and lessons learned in the action that is about to be initiated to assess the degree of implementation and usefulness of the 2017 Gender Guide and which will expand its remit to incorporate elements of EDI and intersectionality, based on good practice case studies.

I believe that this timely book will bring inspiration to many organizations that are in the process of reviewing and implementing diversity and discrimination policies, and that are moving from exclusive gender male-female policies to diversity policies, thus creating more open and welcoming research environments. While collecting data on individual researchers' racial, ethnic, sexual or religious identities can still be complicated depending on the legal framework and social tolerance, decision makers are in a position to take action by defining their vision for the research culture that they envision in their institutions.

Dr Lidia Borrell-Damián
Secretary General of Science Europe
Brussels, April 2022

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Berlin/Barcelona, April 19, 2022

Clemens Striebing, Jörg Müller and Martina Schrauder

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Introduction

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Chapter 1

Diversity and Discrimination in Research Organizations: Theoretical Starting Points

Jörg Müller, Clemens Striebing and Martina Schraudner

Abstract

This article outlines the theoretical foundations of the research contributions of this edited collection about “Diversity and Discrimination in Research Organizations.” First, the sociological understanding of the basic concepts of diversity and discrimination is described and the current state of research is introduced. Second, national and organizational contextual conditions and risk factors that shape discrimination experiences and the management of diversity in research teams and organizations are presented. Third, the questions and research approaches of the individual contributions to this edited collection are presented.

Keywords: Gender; comparative research; bullying; harassment; implicit bias

Purpose of this Edited Collection

The era of team science has long since dawned (Wang and Barabási, 2021; Pavlidis et al., 2014). Diverse teams are considered to have the potential to work particularly efficiently. Creative thinking, diversity of perspectives and the ability to solve complex problems might be pronounced in diverse teams, which has not only been shown for multidisciplinary but also gender-diverse teams (Abdalla et al., 1999; Bear and Woolley, 2011; Østergaard et al., 2011). Such skills are key competencies for research organizations that want to be influential and internationally-recognized sites for cutting-edge research.

Diversity and Discrimination in Research Organizations, 3–30



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However, in order for the individual members of a team to work well, research organizations need to provide a productive and naturally non-discriminatory working environment. The fact that bringing together and integrating researchers and their diverse backgrounds in effective teams is precarious due to the structural conditions of the research system – that is, it does not happen on its own – will be further discussed here. To harness the positive effects of diversity, it must be managed proactively (Nielsen et al., 2018). In this context, the edited collection has the following purposes:

- to contribute rare quantitative analyses of the extent of discrimination according to diverse socio-demographic characteristics of individuals in research-performing organizations;
- to contribute analyses of the contextual organizational factors that affect the perception of discrimination within research-performing organizations, and
- to seek the connection to practice by highlighting options for action.

The publication explores discrimination in research organizations, by which we mean all forms of organizations whose main purpose is to conduct research. The focus is on public research organizations such as universities or non-university research institutions (represented in the edited collection primarily by the German Max Planck Society). Research departments of companies – which in our view operate more according to the rules of the private sector than academia – are not included.

In principle, discrimination can be discussed for all areas of society and is regularly relevant simply due to its strong significance for the working climate and the well-being of individuals and teams. The relevance of research-performing organizations as a research topic seems to be additionally given by the political efforts of advanced (trans-)national innovation systems to combat systemic discrimination and the major role that effective diversity management plays for successful cooperative creative processes. At a political level, as editors and researchers active in national and international projects we experience the European Commission as a particularly proactive actor. With its “Horizon Europe” funding programme for research and innovation, the EC also promotes research projects and practical measures to reduce discrimination and create an inclusive research culture in the research systems of its member states. In doing so, it strives to strengthen international mobility and the competitiveness of a common European research area as part of its mandate laid down in Article 179 of the EU Treaty.¹

¹The text of Article 179 of the Treaty on the Functioning of the European Union (2012) paraphrased here is: “The Union shall have the objective of strengthening its scientific and technological bases by achieving a European research area in which researchers, scientific knowledge and technology circulate freely, [...]”

Diversity and Discrimination: A Sociological Definition

Conceptual Understanding of Discrimination

Research on discrimination in the labor market and work organizations has lost none of its relevance. This continued interest by researchers and practitioners is partly due to the fact that discrimination has become more subtle while still producing adverse effects for disadvantaged social groups. Over the decades, theory as well as empirical research has moved away from understanding discrimination as deliberate and intentional acts of exclusion perpetuated by individuals toward more complex and elusive mechanisms including cognitive “implicit bias” (Quillian, 2006), “microaggressions” (Sue, 2010), unfair and biased organizational processes (Nelson et al., 2008), or the systemic nature of what Barbara Reskin (2012) has called “über discrimination.”

Nonetheless, while discriminatory practices have become less overt (Sturm, 2001), their effects continue to be felt in a very direct and real way by individuals as well as organizations. Findings presented by Jones et al. (2016) in their meta-analysis show that subtle forms of discrimination are “at least *as* substantial, if not more substantial” (*italics original*) than overt forms regarding diminishing the physical and mental health of individuals, job satisfaction, or organizational commitment, to name just three of its effects. The resulting reduced well-being and self-esteem of staff has organizational-level consequences as employees’ work attitudes decline, turnover intentions increase or job performance dwindles, affecting the overall effectiveness of firms (for a review, see Colella et al., 2012). Thus, while it has become more difficult to detect discrimination, its negative consequences are as direct and powerful as ever, calling for equally strategic and systemic counter-measures.

Discrimination has a long and substantive research pedigree in the social and behavioral sciences, with contributions spanning several disciplines including economics, sociology, psychology, management and law. Although the explanatory models for discrimination differ across these fields of knowledge, there is a certain agreement on its basic definition: discrimination involves the differential treatment of individuals based on functionally irrelevant status cues such as race or gender (Merton, 1972; Altonji and Blank, 1999).

Unpacking this definition first implies recognizing that discrimination is based on group membership and as such it never targets a person due to individual reasons. Discrimination happens because individuals are perceived as belonging to a social group delineated by gender, race or national origin, age, health conditions or disability, religion, and/or sexual orientation (Colella et al., 2012; Baumann et al., 2018). These categories often do not function as unified, mutually-exclusive entities, but rather they “intersect” and can thereby aggravate experiences of oppression and power (Collins, 2015).

Second, discrimination implies an “unjustified” differential treatment that occurs due to social group membership rather than actual differences in terms of task-relevant qualifications, contributions, or performance. Thus, job opportunities, promotions or rewards (e.g., wages) differ between women and men, even when comparing equally qualified and experienced persons. Consequently, discrimination is considered not only unfair but also illegal in many contexts.

Third, discrimination refers to behavior rather than solely beliefs and attitudes. Although the psychological literature predominately explains discrimination with references to prejudice and stereotypes, this is insufficient to constitute an act of discrimination (Fiske et al., 2009). For discrimination to occur, actions need to be carried out that exclude, disadvantage, harm, harass or deprive the members of a less favored group compared to the members of a more favor group. Although most research conceives discrimination as negative behavior against disadvantaged groups, it can also involve positive behavior, that is, giving advantages to already-privileged groups. In fact, as Nancy DiTomaso (2020, 2013) argues, for the perpetuation of social inequality, the

positive actions taken on behalf of those who are already advantaged may be as consequential or more so than the negative actions that deny opportunity to those who are disadvantaged.

Conceptual Understanding of Diversity

Similar to research on discrimination, research on workplace diversity continues to be a burgeoning academic field. As Faria (2015) suggests, diversity research came into being in the US during the 1980s as a specific reaction against the previous social justice-based Equal Employment Opportunity (EEO) and Affirmative Action (AA) policies dealing with discrimination. Driven by an increasingly heterogeneous workforce and economic globalization, these justice-based policies were considered to be inefficient and costly, and replaced in favor of an emerging business case for diversity. Whereas discrimination involves a moral component in terms of the “unjustified” differential treatment (Altman, 2011), diversity relinquishes these moral and legal burdens, concentrating instead on a pragmatic strategy to increase the corporate bottom line (Litvin, 2006). Diversity research therefore attenuates regulatory approaches for ameliorating the negative effects of discrimination and instead emphasizes proactive measures to capitalize on heterogeneous resources available in different work settings. For diversity research, the focus on measurable profits implied the establishment of a matrix of quantification where certain clear-cut, easily observable demographic differences could be set in relation to equally quantifiable, dependent outcomes. Backed up by the predominant positivist research tradition in the US, demographic differences according to gender, age, race as well as functional differences such as educational background were thus operationalized and enshrined as measurable, stable markers of identity to be harnessed by Human Resource Departments and Management for improved profitability.

As a result, a major difference between discrimination and diversity approaches in workplace settings concerns the role reserved for markers of social identity such as age, gender, or race. While diversity scholars conceived these differences in terms of a-historical, personal attributes, discrimination scholars are mostly attentive to the ways in which these individual attributes delineate group-based membership, which in turn is tied to historically-grown positions of privilege and power (Prasad, Pringle, and Konrad, 2006).

Today, diversity research has increasingly overcome its initial and overly simplistic conceptions of fixed identity attributes, partly driven by the largely inconsistent findings of its initial research program, which failed to establish any clear-cut linear relationship between diversity attributes and economic benefits (Haas, 2010). While subsequent work has become more aware of the contextual nuances that moderate and mediate the effects of diversity (van Knippenberg and Schippers, 2007; Joshi and Roh, 2007, 2009), other approaches appear to have come full circle in terms of recognizing the importance of power and status processes for working groups (van Dijk and Van Engen 2013; Ravlin and Thomas 2005; DiTomaso et al., 2007). As van Dijk et al. (2017) rightly emphasize, diversity research needs to take into account that

members of different social groups are likely to be perceived and approached differently because of their membership in a given social category [...] and, in part as a consequence, may behave differently (p. 518).

Diversity and Discrimination — Common Ground

Thus, as these recent developments suggest, discrimination and diversity research are becoming more closely aligned. This is especially apparent from the combination of the underlying psychological models in work groups and their organizational context factors. As we argue, social categorization models need to be combined with status-/power-based approaches (e.g., AA and equal opportunities) to work group diversity, prevent discriminating behaviors and enable organizations to take full advantage of their diverse human resources. Studies of discrimination and diversity appear in this sense as two sides of the same coin, suggesting that measures leading to a reduction of discrimination not only reduce adverse effects at the individual level but also hold the potential to create more productive and effective work environments.

Approaches to Studying Discrimination and Diversity

Levels of Analysis

While research on diversity primarily operates at the level of teams and small- to medium-sized work groups (Roberson, 2019; van Knippenberg and Schippers, 2007), research on discrimination can target the micro-, meso- and macro-level of society or a combination of these levels of analysis. At the macro-level, the magnitude and persistence of discrimination has been well documented in relation to race and gender in employment, housing, credit markets, schooling and consumer markets (Pager and Shepherd, 2008). For example, concerning housing and credit markets, Pager and Shepherd (2008) summarize that “blacks and Hispanics face higher rejection rates and less favorable terms in securing mortgages than do whites” (p. 189). Although differential treatment varies across countries and even cities, discrimination remains pervasive and an important barrier to residential

opportunities. Gender-based discrimination in the labor market – to use a second macro-level example – is just as widespread and structural as race-based inequalities. The wage gap between women and men remains at an estimated 16 percent globally ([International Labour Office, 2018](#)). In the EU-28, women in Research & Development earn on average 17 percent less than their male colleagues (European Commission, 2019). Together with the horizontal segregation of women and men in certain labor market segments and vertical segregation restricting women from access to decision-making positions, these macro-level forms of discrimination constitute defining structural fault lines of contemporary labor markets.

While macro-level accounts usually produce evidence regarding the extent of structural disadvantages between social groups, meso- and micro-level accounts have advanced explanatory models of why discrimination occurs at all. The crucial influence of the organizational climate on discrimination constitutes a well-known example at the meso level. Thus, it has been shown that the organizational climate is the single-most important driving factor for sexual harassment to occur (National Academies of Sciences, Engineering, and Medicine, 2018; [Willness, Steel, and Lee, 2007](#)). On the other hand, micro-level accounts build upon psychology and social psychology to expose the individual-level dimensions of discrimination. Different psychological models exist concerning how prejudice and stereotypes are linked to discriminating actions, such as when implicit attitudes shape the behavior toward others defined by their social group identity ([Greenwald and Krieger, 2006](#)). The contributions of this edited collection in their entirety cover the macro-, meso- and micro-level.

Discrimination and Diversity through a National and Organizational Lens

While considerable advances have been achieved to untangle the hidden dynamics of discrimination in organizations, the collection of research articles presented here makes two specific contributions to the existing literature. First, they contribute research on aggregated and individual identity-related experiences of workplace misconduct at the research workplace. The contributions focus on different socio-demographic groups of people and consider research organizations that operate in different national contexts. The contributions reflect the influence of the systemic framework of academia.

Second, the relationship between diversity and discrimination in the context of the academic workplace is especially interesting in relation to one of the most decisive transformations of the academic environment over recent decades, namely the simultaneous intensification of work and diminishing resources/funding. The introduction of a new managerialism and regimes of accountability has obliged academics to do more with fewer resources and less time. As incipient research shows, the effects in terms of discrimination are particularly felt by minorities and those collectives that are already in more precarious and disadvantaged situations. Although research on the “neoliberal university” is abundant, there is a clear lack of more focused approaches to understand its implications for discrimination as well as diversity in work teams.