

Unconscious Bias in the HRM Literature

Towards a Critical-reflexive Approach

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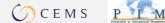
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Unconscious bias in the HRM literature: Towards a critical-reflexive approach

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ABSTRACT

This article presents a systematic review of the human resource management (HRM) literature to document how the term "unconscious bias" is defined, theorized, and operationalized in a sample of 518 articles in the field. The review identifies four main thematic streams in which unconscious bias is commonly discussed: (1) the biased individual; (2) bias as binary; (3) bias in moments of decisions; and (4) bias as a fixable issue. Based on this thematic mapping of the literature, a critical-reflexive approach is outlined to shed light on and challenge taken-for-granted assumptions, interrogate how arguments are brought forth and open up new avenues for future research. This article contributes to the existing HRM literature in three ways. First, it shows patterns in existing theory, making explicit the inconsistencies and tacit assumptions in the ways in which unconscious bias is theorized in HRM research. Second, it presents a critical-reflexive approach to researching unconscious bias. Third, based on this approach, it suggests avenues for future research on how to move beyond these inconsistencies and assumptions.

1. Introduction

It is an accepted fact that human cognition is flawed in that our brains often rely on shortcuts when we need to act, assess, or decide (Kahneman, Knetsch, & Thaler, 2019; Kahneman, Lovallo, & Sibony, 2019; Thaler & Ganser, 2015). Such shortcuts allow for quick information processing, simplifying a complex world by drawing on biases (Jost et al., 2009). This process often occurs tacitly and pre-reflexively (Braddy, Sturm, Atwater, Taylor, & McKee, 2020; Willard, Isaac, & Carney, 2015). Such unconsciously held, simplifying, and discriminatory tendencies are called *unconscious biases* in this review. Unconscious biases are necessary for people to function as social beings, but they can also be problematic in the sense that they unwittingly create harmful practices and outcomes (Colella, DeNisi, & Varma, 1997; Derous, Buijsrogge, Roulin, & Duyck, 2016; Jordan, Ferris, & Lamont, 2019; Weiner, 1991). Unconscious biases inform human resource management (HRM) practices and policies (Auster & Prasad, 2016; Drazin & Auster, 1987; Hirsh & Cha, 2017; Truss, 1999; Wilson, 2010), and this constitutes a thriving research domain (Carton & Rosette, 2011; Pichler, Simpson, & Stroh, 2008).

Within this domain, however, there are also different takes on what unconscious bias is. Some see it as an "inaccurate evaluation" (Koch, D'Mello, & Sackett, 2015, p. 129). Relying on economically informed thought (Thaler & Ganser, 2015), Reynolds et al. (2020),

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for example, define unconscious bias as "a systematic deviation from rational consistency, whereby judgment is influenced by factors irrelevant to the ostensible goal" (p. 120). That said, understandings of unconscious bias are rarely defined with such clarity. Although the term "unconscious bias" has garnered much attention (Derous & Ryan, 2019; Finkelstein, Frautschy Demuth, & Sweeney, 2007; Lim, Trau, & Foo, 2018), other terms, such as "implicit bias" (Tetlock & Mitchell, 2009), "cognitive bias" (Pleggenkuhle-Miles, Khoury, Deeds, & Markoczy, 2013; Tetlock, 2000), "gender bias" (Reynolds et al., 2020), and "racial bias" (Stauffer & Buckley, 2005), are also common, alas not clearly delineated against this. Furthermore, there seems to be some conflation with terms such as "stereotype" (Burke, Koyuncu, & Fiksenbaum, 2008) and "prejudice" (Maddux, Lu, Affinito, & Galinsky, 2020). Despite this plethora of terms, there is consensus in so far as biases are generally understood to affect our judgment and decision-making in major and impactful ways (Haley & Stumpf, 1989; Hoover, Hack, Garcia, Goodfriend, & Habashi, 2019; Powroznik, 2017) and that unconscious biases are often linked to discriminatory and other harmful practices in the context of work and workplaces (Bano & Nadeem, 2018; Shih, 2006; Tetlock & Mitchell, 2009; Trentham & Larwood, 1998).

Unconscious biases are a core concern for understanding social inequalities in organizations. At the same time, the discrepancies in the ways in which these different, yet related terms are used indicate that there is a commonly held and taken-for-granted assumption that we *just know* what unconscious bias is. But underneath such an assumption is a lack of clarity, which poses problems for both research and practice. First, lacking clarity risks undifferentiated and uncritical treatment of unconscious bias and creates barriers to developing a broader understanding thereof, beyond individual research approaches. Second, such ambiguity makes it difficult to generalize study results, hence creating an obstacle to progressing the field of unconscious bias research. Third, it prevents future HRM research from critically reflecting on the validity, legitimacy, and comparability of existing findings relating to unconscious bias.

This article seeks to address the problems outlined above with a review of the extant literature in HRM and the broader management and organization domains. The review is guided by the following research questions: *How is unconscious bias defined, theorized, and operationalized in human resource management research? Which avenues could future research pursue?* In answering these questions, we pay special attention to the different ways in which unconscious bias is understood and investigated and how findings are interpreted and communicated. Our attention is guided by critical (Chia & Morgan, 1996; Mingers, 2000) and reflexive (Clegg & Hardy, 1996; Mikkelsen & Clegg, 2019) thought. Critical thought seeks to problematize the status quo in order to generate new insights and create advancement to a field (Mingers, 2000); reflexivity means "bringing in alternative perspectives, paradigms, vocabularies and theories to open up new avenues and lines of interpretation" (Mikkelsen & Clegg, 2019, p. 167). In proposing a critical-reflexive approach, we seek to 1) interrogate the different arguments and assumptions about unconscious bias, 2) identify the tensions and disaccords surrounding such arguments and assumptions, and 3) draw out analytical distinctions and provide avenues for forging new connections (Tsoukas, 2017) between multiple ways of theorizing unconscious bias.

Rather than trying to impose a one-size-fits-all classification of unconscious bias, taking on such a critical-reflexive stance allows providing a nuanced overview of the multiplicity and interdisciplinarity of the many articles that write about or otherwise refer to unconscious bias in the HRM domain. Critical thought urges us to question "assumptions made about the legitimacy and whose views should be privileged" (Mingers, 2000, p. 225), whereby reflexivity then allows us to bring in new perspectives (Mikkelsen & Clegg, 2019). We do so by drawing on the rich works on intersectionality (Crenshaw, 1989; Holvino, 2010; Luthra, 2021; Maroto, Pettinicchio, & Patterson, 2019), which add further nuance to the question of whose views current research takes into account. In particular, the idea of intersectionality attunes us to the ways in which different categorizations and discriminatory effects from unconscious bias can overlap, hence affecting groups within such overlaps, or intersections, differently than those outside (cf. Crenshaw, 1989).

This article makes three important contributions (cf. Makadok, Burton, & Barney, 2018) to the HRM domain: (1) it shows patterns in existing theory, making explicit the inconsistencies and tacit assumptions in the ways in which unconscious bias is theorized in HRM research, (2) it presents a critical-reflexive approach to researching unconscious bias, and based on this approach, (3) it suggests avenues for future research on how to move beyond these inconsistencies and assumptions, which we hope will guide forthcoming theorizations of unconscious bias.

The article is structured as follows. In the next section, we explain our research methodology, detailing how we planned and conducted the literature review. We then present a mapping of the current state of research on unconscious bias within HRM. Based on this, we discuss current ways to define and conceptualize the term "unconscious bias". Next, we present a critical-reflexive research agenda to address neglected research areas. In our concluding discussion, we provide the limitations of this study, present potential avenues for future research, and conclude with implications for HRM practitioners.

2. Methodology

Considering the large body of work on unconscious bias and human relations and the pervasiveness of this topic, we opted to conduct a systematic literature review not only in extant HRM journals but also in journals of the neighboring domains of management and organization studies (MOS). This is appropriate because many relevant articles extend across these domains (Brown-Iannuzzi, Payne, & Trawalter, 2013; Castilla & Benard, 2015; Erlandsson, 2019; Weyer, 2007), and doing so is aligned with other systematic review articles in HRM and MOS (Christensen, Guschke, Storm, & Muhr, 2021). The benefit of a systematic review is its replicable and transparent process, which seeks to eliminate research biases by conducting exhaustive literature searches and comprehensively documenting reviewers' processes, decision-making, and conclusions (Tranfield, Denyer, & Smart, 2003).

Our research was guided by the systematic review protocol outlined by Tranfield et al. (2003). This approach helped us to closely document each of our steps and to note down the reasoning behind each of our decisions as transparent as possible. As suggested by Tranfield et al. (2003), we structured our review process into three stages: (1) planning the review, (2) conducting the review, and (3)

Table 1
Titles of all journals considered.

Field	Journal Title
PSYCH (WOP-OB)	Journal of Applied Psychology
PSYCH (WOP-OB)	Journal of Occupational and Organizational Psychology
PSYCH (WOP-OB)	Journal of Occupational Health Psychology
PSYCH (WOP-OB)	Journal of Organizational Behavior
PSYCH (WOP-OB)	Journal of Vocational Behavior
PSYCH (WOP-OB)	Organizational Behavior and Human Decision Processes
PSYCH (WOP-OB)	Personnel Psychology
PSYCH (WOP-OB)	Applied Psychology: An International Review
PSYCH (WOP-OB)	European Journal of Work and Organizational Psychology
PSYCH (WOP-OB)	Human Performance
ETHICS-CSR-MAN	Academy of Management Journal
ETHICS-CSR-MAN	Academy of Management Review
ETHICS-CSR-MAN	Administrative Science Quarterly
ETHICS-CSR-MAN	Journal of Management
ETHICS-CSR-MAN	Academy of Management Annals
ETHICS CSR MAN	British Journal of Management
ETHICS-CSR-MAN ETHICS-CSR-MAN	Business Ethics Quarterly Journal of Management Studies
ETHICS-CSR-MAN ETHICS-CSR-MAN	Academy of Management Perspectives
ETHICS-CSR-MAN	Business and Society
ETHICS-CSR-MAN	California Management Review
ETHICS-CSR-MAN	European Management Review
ETHICS-CSR-MAN	Gender and Society (only work/organisation/management related aticles)
ETHICS-CSR-MAN	Gender, Work and Organization
ETHICS-CSR-MAN	Harvard Business Review
ETHICS-CSR-MAN	International Journal of Management Reviews
ETHICS-CSR-MAN	Journal of Business Ethics
ETHICS-CSR-MAN	Journal of Business Research
ETHICS-CSR-MAN	Journal of Management Inquiry
ETHICS-CSR-MAN	MIT Sloan Management Review
ORG STUD	Organization Science
ORG STUD	Human Relations
ORG STUD	Leadership Quarterly
ORG STUD	Organization Studies
ORG STUD	Organizational Research Methods
ORG STUD	Group and Organization Management
ORG STUD	Organization
ORG STUD	Research in Organizational Behavior
ORG STUD	Research in the Sociology of Organizations
HRM&EMP	British Journal of Industrial Relations
HRM&EMP	Human Resource Management (USA)
HRM&EMP	Human Resource Management Journal (UK)
HRM&EMP	Industrial Relations: A Journal of Economy and Society Work, employment and Society
HRM&EMP HRM&EMP	Economic and Industrial Democracy
HRM&EMP	European Journal of Industrial Relations
HRM&EMP	Human Resource Management Review
HRM&EMP	Industrial and Labor Relations Review
HRM&EMP	Industrial Relations Journal
HRM&EMP	International Journal of Human Resource Management
HRM&EMP	New Technology, Work and Employment
HRM&EMP	Work and Occupations
ETHICS-CSR-MAN	Scandinavian Journal of Management
ORG STUD	Group Processes and Intergroup Relations
ORG STUD	Journal of Applied Behavioral Science
ORG STUD	Leadership
ORG STUD	Journal of Organizational Change Management
ORG STUD	Management Communication Quarterly
HRM&EMP	Employee Relations
HRM&EMP	Personnel Review
ETHICS-CSR-MAN	Equality, Diversity and Inclusion: an International Journal
ETHICS-CSR-MAN	European Journal of Women's Studies (only work/organisation/management related aticles)
	Sex Roles (only work/organisation/management related articles)
ETHICS-CSR-MAN	, , , , , , , , , , , , , , , , , , , ,
ETHICS-CSR-MAN	Gender in Management: An International Journal
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reporting and disseminating the results. Below, we detail our processes within each of these stages and explain the decisions we made.

2.1. Stage 1: Planning the review

Tranfield et al. (2003) recommend that the planning stage should include (1) establishing the need for the review, (2) creating a proposal for the review, and (3) developing a protocol for it. In line with Tranfield et al. (2003), we formed a review panel consisting of all five authors, and we met regularly to actively discuss and iteratively refine our stance on methodology and theory. In this early stage, we found the systematic approach helpful, as it provided structure, clarity, and guidance. Following this structure allowed to create a review protocol that was unambiguous and specific, and we discussed and improved it in a number of meetings. The resulting coding sheet was then refined in a number of iterations, whereby each author test-coded 10 articles across different journals to uncover any remaining ambiguities, which we then collectively eliminated. So doing ensured that all were aligned with the overall review protocol.

2.2. Stage 2: Conducting the review

As discussed by Tranfield et al. (2003), a systematic literature review follows a rigorous protocol to provide a thorough mapping of the intellectual territory in question. Contrary to rather descriptive approaches of narrative reviews, systematic reviews aim to avoid and counteract researchers' biases by making their assumptions and decisions explicit (Tranfield et al., 2003). Given our research interest, we found this appropriate. Below, we discuss and explain the review protocol we followed for our systematic review.

2.2.1. Identifying and selecting relevant studies

The review stage begins with the steps of identifying and selecting relevant studies (Tranfield et al., 2003). We identified studies as relevant in three steps. First, we selected all journals listed in the HRM field that ranked at least three stars in the ABS/AJG journal ranking list. Based on discussions within the review panels and other HRM scholars, we opted for an interdisciplinary approach. We therefore extended our preliminary journal selection by including additional journals under the domains of organizational psychology, organization studies, and management, as well as gender and diversity-specific journals. This list comprised 65 journals. In the second step, across these journals, we conducted an initial search for articles with the term "bias" in the titles, abstracts, or keywords provided. Nine of the selected journals did not have any matching papers and were consequently excluded. A list of the titles of the remaining 56 journals is provided in Table 1. Next, we eliminated all articles published in languages other than English. Of all remaining 1,359 articles, in the third step, one of the authors read each abstract and excluded all articles that used the word "bias" in a colloquial manner, such as "we provide an unbiased account of ..." or that merely contained the letter combination "bias" without actually treating unconscious bias, for example, "phobias" and "suburbias." We further excluded any articles that treated methodological biases, such as response bias in surveys, or that did not consider work or organizations. This identification and selection stage ended in June 2020 and resulted in a total of 518 articles relevant for this review. We did not include articles published after this date (see Fig. 1.).

2.2.2. Assessing quality, extracting data, monitoring progress, and conducting the synthesis

Next, we then assessed the quality of the remaining 518 articles, using predetermined criteria and checklists (cf. Tranfield et al., 2003). This is reflected in our research protocol and the coding sheet, whereby the study's quality assessment became an ongoing activity rather than an individual step.

The fourth step is data extraction, and the fifth step is progress monitoring. The way in which the identified articles were coded and themed followed an iterative process. The author who read all abstracts in the selection phase prepared a preliminary list of 10 themes (definition of bias, operationalization of bias, career development, recruiting, performance evaluations, diversity, discrimination, culture, measures/policies, and technology). We then discussed these themes using our own backgrounds within, as well as our own knowledge of, the HRM research domain and refined the list of topics. In this process we added five more themes (intersectionality, process affected by bias, mechanism of bias, secondary theories used, and stereotypes) and expanded the theme of discrimination to "inclusion/discrimination." Furthermore, we discussed in detail what we meant to capture with each theme; for example, by "mechanism of bias" we sought to capture the way in which studies explained how bias does or does not work, such as because of bounded rationality. We also decided to add five more descriptive codes (year of publication, quantitative / qualitative / mixed methods, empirical / theoretical, descriptive / prescriptive / critical, and level of analysis—societal / professional / organizational / individual).

Next, we assigned each author 10 randomly chosen test articles to code using these themes in the coding sheet. In the subsequent meeting, we chose to add the subtheme *intersectionality categories* to the theme of *intersectionality* in order to capture more precisely the social groups that the articles in question considered. We also added an *open* theme to capture anything else that struck the reviewers as meaningful but did not fit into any other themes. Although systematic reviews have positivist origins, they allow for synthesis with other ways of thinking (Tranfield et al., 2003), and we agreed that recording the initial judgments emerging during the review process was important. Given the coding test, we discarded the analytical theme of *level of analysis*, as well as the theme *critical*, as they did not prove to be useful.

Following the finalization of the coding sheet, we systematically coded all 518 articles in accordance with the coding sheet, holding regular meetings throughout the process to ensure a uniform process. Every third meeting, we involved the author responsible for the initial article search and abstract screening to consult with them.

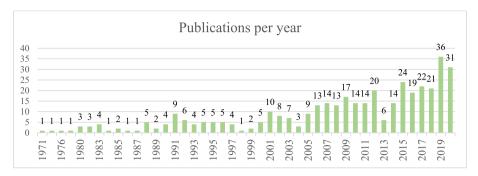


Fig. 1. Number of publications per year.

2.3. Stage 3: Reporting and disseminating the results

The last stage suggested by Tranfield et al. (2003) provides a seamless shift from finalizing the review to considering the presentation and reporting of findings. In line with this suggestion, we first provide a quantitative analysis of the characteristics of the reviewed articles. Second, we report on our qualitative thematic findings, which were obtained from the strictly monitored coding process explained above. We found Tranfield et al.'s (2003) suggestion of combining both quantitative and qualitative analyses most useful to reduce our own biases. In this article, we therefore present both the numerical characteristics of the selected journal sample (displayed in graphs and statistics) and our qualitative findings (displayed in text and summary Tables 5-11). The ensuing cross-checks to verify that all table and graphic results matched what we documented in the coding sheet helped us to ensure validity and coherence.

3. Findings

From the selected 518 articles, we excluded 127 that did not discuss bias in a way that was deemed relevant for this research. These excluded papers addressed, for example, methodological issues, such as measurement bias (e.g., Borjas, 1983; Duncan & Trejo, 2017) or bias in data collection (e.g., Bardoel, Drago, Cooper, & Colbeck, 2011). Others (e.g., Gilbert, 2004; Van De Vliert & Van Der Vegt, 2004) referred to bias only briefly or colloquially but provided no further elaborations on the term itself. This resulted in a total of 391 articles considered in this study.

3.1. Overview: Numerical characteristics of the dataset

Out of the 391 articles, an overwhelming majority were published after 2011. Only 47.1% of the papers were published in the 40 years preceding 2011, whereas 52.9% were published between 2011 and 2020. This indicates that the topic has drawn more attention in the last decade.

More than two thirds of all the publications included empirical studies, predominantly based on quantitative inquiry (Table 2). One out of 13 publications (7.7%) combined an empirical study with theoretical elaborations; we cannot observe a clear preference for a specific methodological approach. Some papers that discussed unconscious bias mainly from a theoretical lens did so to develop quantitative models and conduct further research (e.g., De Corte, 1993; Martell, Emrich, & Robison-Cox, 2012). These more methodological papers have been coded as theoretical but not empirical papers. Moreover, review papers, such as those by Jost et al. (2009) and Roberson and Block (2001), applied a more qualitative approach to further develop the theoretical understanding of unconscious bias. Such papers have been coded as qualitative by approach, as well as theoretical. 46 papers (11.8%), however, focused on the theoretical understanding of bias and did not include qualitative or quantitative methods. A further 24 papers (6.1%) have not been coded as empirical or theoretical. These included, for instance, practitioner-orientated publications, such as those by Williams and Mihaylo (2019) and Caver and Livers (2002). Methodological discussions on advancing quantitative methods without advancing the theoretical understanding of unconscious bias have been included in the category "neither" (e.g., Berry & Zhao, 2015).

The overwhelming majority of the publications has a purely descriptive approach (325 out of 391, i.e. 83.1%), meaning that they describe a phenomenon without offering critique or recommendations. At the opposite end of the spectrum, we found 39 publications (10%) with a purely prescriptive angle. Only 23 papers (5.9%) include both approaches.

Looking at how unconscious bias is operationalized in the 391 publications, we can see a very strong tendency to measure or otherwise capture unconscious bias in terms of issues related to gendered processes, most prominently as negative attitudes towards women (Table 3). Next to gender, racialized aspects, such as discrimination related to skin color, ethnicity, and race, were the second most common form of operationalizing unconscious bias; they were identified 104 times in the papers (26.6%). Operationalization in

Table 2 Characteristics of the reviewed publications.

		No. of Publications	% of Publications
Empirical papers	Quantitative	229	58.6%
	Qualitative	37	9.5%
	Mixed methods	8	2.0%
Empirical and theoretical papers	Quantitative	16	4.1%
	Qualitative	12	3.1%
	Mixed methods	2	0.5%
Theoretical papers	Quantitative	3	0.8%
	Qualitative	14	3.6%
	Purely theoretical	46	11.8%
Neither	Quantitative	3	0.8%
	Other types of publications	21	5.4%

Table 3Key topics identified in the publications.

Topics Identified	No. of Papers	% of Publications
Gendered aspects	211	54%
Racialized aspects (race, skin color, ethnicity, etc.)	104	26.6%
Age	13	3.3%
Weight	10	2.6%
Sexuality	9	2.3%
Disability	7	1.8%
Attractiveness	6	1.5%
Class	6	1.5%

terms of other types of inequality, such as age, social class, or disability, were less frequent.

A similar image emerges when bibliometric data are analyzed (Fig. 2). We used VosViewer software to examine the keywords provided by the authors and publishers for the publications¹. We selected the full count for each keyword and limited the visualization to those keywords that were mentioned at least thrice. In this way, we obtained a visualization with 62 out of 875 keywords (7.1%). We opted for *overlay* visualization, which uses the average publication year as an indicator for the color. As can be seen in Fig. 2, issues such as bias in science, technology, engineering, and math (STEM), bias in recruitment, and intersectionality are rather recent phenomena (as they are in yellow), whereas topics such as sexual discrimination, power, and intergroup relations have a longer history (average publication year close to 2010). The visualization of keywords highlights the overwhelming focus on gender, gender bias, and gender stereotypes.²

We obtain similar results when the title and abstract are analyzed (see Fig. 3). Here, we opted for full counting and used a thesaurus file to merge *biases* and *bias* so that both terms would be counted within the same category. We set the occurrence threshold to 30, meaning a word has to appear at least 30 times, which generated a list of 56 out of 7,164 terms. For visualization purposes, only the 60% most relevant terms were selected, which resulted in a list of 34 terms, from which we excluded the terms "author" and paper."

The overlay view indicates that terms such as "racial bias" and "diversity" as well as methodological questions, are rather young terms within the dataset (colored in yellow), whereas terms such as "male" "female" and "job" seem to be more dated. Moreover, "woman" is mentioned very often and is closely related to "man".

This concludes our quantitative overview of the literature reviewed. In the next sections, we turn to the issue of defining unconscious bias and then provide a detailed mapping of the dominant focus areas in which this term has been used. We end this section by presenting a critical-reflexive research agenda and outlining novel ways to conduct unconscious bias research.

3.2. The difficulty of defining unconscious bias

We find that most studies neither explicitly nor clearly define the concept of unconscious bias. This points to a taken-for-granted assumption that there is a common understanding of what unconscious bias is. Such a common understanding, however, does not seem to exist. Our analysis revealed pronounced differences in the ways in which unconscious bias is theorized and researched. In this section, we therefore provide an overview of the existing definitions and usages of the term by highlighting the different ways in which

¹ See the VOSviewer Manual by Nees van Eck and Luda Waltman, July 22, 2021, which we accessed at https://www.vosviewer.com/documentation/Manual_VOSviewer_1.6.17.pdf.

² For an interactive version, please see https://app.vosviewer.com/?json=https://www.dropbox.com/s/ka5lamhvk4t3vvb/VOSviewer_8583698632009452951.json?dl=1.

³ See the following for an interactive version: https://app.vosviewer.com/?json=https://www.dropbox.com/s/dm76oowrrp1cnju/VOSviewer_1306326287797292967.json?dl=1.

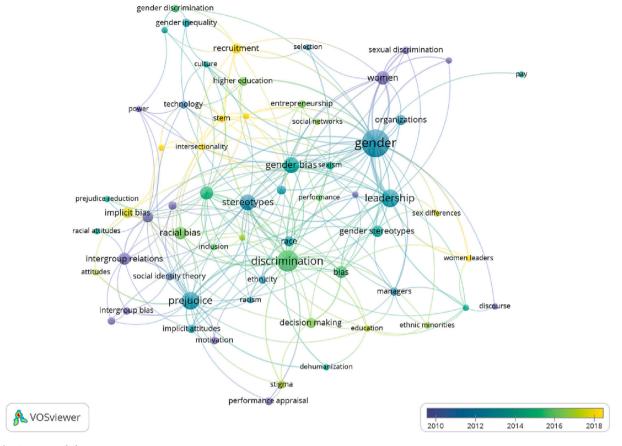


Fig. 2. Keywords by year.

For an interactive version, please see https://app.vosviewer.com/?json=https://www.dropbox.com/s/ka5lamhvk4t3vvb/VOSviewer_8583698632009452951.json?dl=1.

unconscious bias is theorized, namely, at the (1) individual, (2) group, and (3) systemic level. We next elaborate on how unconscious bias is often conflated with other concepts. Lastly, we provide an overview of more normative approaches to theorize unconscious bias.

3.2.1. Unconscious or implicit bias: A tangle of definitions

There is a paucity of clear definitions of unconscious bias. One notable exception presents an article by Noon (2018), who lists the hallmarks of unconscious bias as follows: "Everyone possesses bias. People are mostly unaware of the bias. It is deeply engrained. It influences attitudes. It probably influences behaviour. It can be measured (or at least quantified)" (p. 199). Most other articles that offer definitions have a tendency to entangle the words "conscious/unconscious" and "implicit/explicit" (Bruneau, Szekeres, Kteily, Tropp, & Kende, 2020; DiTomaso, 2015; Tetlock & Mitchell, 2009; Willard et al., 2015). So doing ignores the fact that both words have markedly different meanings and thereby provide different underlying bases for theorization. In plain English, the adjective *unconscious* means "not marked by conscious thought, sensation, or feeling" indicating that an action is not deliberate and referring to a sense of missing consciousness. However, the adjective *implicit* means that something is "suggested but not communicated directly" hence rather relating to forms of expressions. This means that bias should, at least in theory, be possible to express in a combination of conscious/unconscious and implicit/explicit ways. We depict these combinations in a 2 × 2 matrix in Fig. 4.

That said, in the majority of the studies considered, there is no clear demarcation between the terms "unconscious" and "implicit". They are often used synonymously and without further reflection, or one term is used to define the other. For example, Greenwald and Banaji define implicit bias stating that it "(a) is pervasive, (b) is dissociated from conscious intent and values, (c) reflects preferences for one's own group or dominant groups in society, and (d) influences behavior" (2015, p. 184). Braddy et al. (2020), as well as Kossek, Su, and Wu (2017), use the same definition of implicit bias, understanding it to occur when "negative valence is unconsciously associated with a social object (e.g., women) and the biased behavior is not that obvious" (Kossek et al., 2017, p. 235). From these definitions, the theoretical underpinning is that implicit bias stems from unconscious associations, but how and in what ways this would render a bias

⁴ Dictionary entry accessed online via https://www.merriam-webster.com/dictionary/unconscious on May 30, 2022.

⁵ Dictionary entry accessed online via https://dictionary.cambridge.org/dictionary/english/implicit on May 30, 2022.

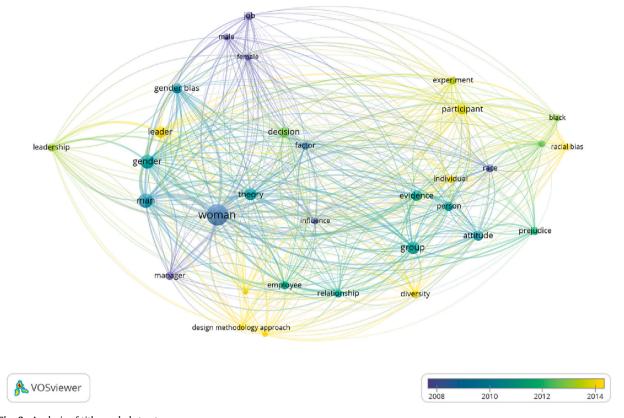


Fig. 3. Analysis of titles and abstracts. See the following for an interactive version: https://app.vosviewer.com/?json=https://www.dropbox.com/s/dm76oowrrp1cnju/VOSviewer_1306326287797292967.json?dl=1.

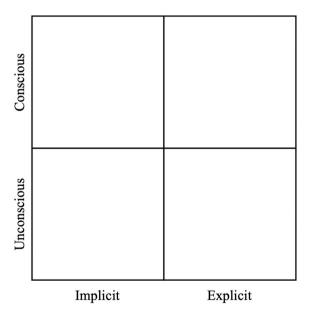


Fig. 4. Matrix of the different forms of exhibiting bias.

implicit rather than unconscious is left open. An exception is provided by Tetlock and Mitchell (2009), who explicitly refer to this problem. The authors point to a small but nuanced difference between "unconscious bias" and "implicit bias", which they argue is based on the way in which bias is measured: "implicit measures of bias do not always detect thoughts or feeling beyond the awareness

of the participant and controlled processes appear to contribute to scores on implicit measures of bias" (p. 4); they consequently state that "Accordingly, we will usually refer to implicit, rather than unconscious, bias" (p. 4). Such reasoning implies that unconscious bias manifests fully involuntarily, as it entails thoughts and feelings beyond one's awareness, whereas an individual may express implicit bias in ways that are at least somewhat under their control. Furthermore, the use of concrete terms has been argued by the popularity in research literature. For instance, Greenwald and Banaji initially argued for using implicit/explicit instead of unconscious/conscious because of that dichotomy's prominence in research at that time (Greenwald & Banaji, 1995). Later, they acknowledge that unconscious/conscious has replaced implicit/explicit in the 1990s (Banaji & Greenwald, 2013). Overall, the widely lacking demarcations between implicit and unconscious in the theorization of unconscious bias obfuscate the extent to which research findings agree with one another and the extent to which these study results may be interpreted. A much clearer distinction exists between the terms "unconscious bias" and "conscious bias". For example, Hagiwara, Dovidio, Eggly, and Penner (2016) argue the following:

People have both explicit (conscious, deliberate) and implicit (nonconscious, spontaneous) racial biases (Wilson, Lindsey, & Schooler, 2000), which are only weakly correlated with one another (in the range of .15 to .25; Greenwald, Poehlman, Uhlmann, & Banaji, 2009; Hofmann, Gawronski, Gschwendner, Le, & Schmitt, 2005). Individuals are aware of their explicit racial bias; thus, explicit bias is relatively easy to monitor and self-regulate. In contrast, implicit bias is an automatically activated response that occurs often without conscious awareness (Wilson et al., 2000). Implicit bias is therefore relatively difficult to monitor and self-regulate. (p. 510)

When it comes to the *explicit* or *conscious* form of bias, there is even less debate about nuance. Here, the literature generally suggests that individuals express such biases when they are prompted to do so (Hagiwara et al., 2016; Tam, Hewstone, Harwood, Voci, & Kenworthy, 2006; Ziegert & Hanges, 2005), for example, in a questionnaire. However, the bias literature generally discusses conscious and explicit forms of bias less often and mentions them for a large part only to create distinctions from unconscious and implicit forms of bias, which are the focus of most studies (e.g., Kossek et al., 2017; Schoen, DeSimone, Meyer, Schnure, & LeBreton, 2021).

Table 4
Different definitions of unconscious bias

Dimension considered	Characterization of unconscious bias	Definitions from exemplary articles
Individual	Unconscious bias is an inherently human phenomenon	"[] cognitive models which define bias as a natural human tendency" (Roberson & Block, 2001, p. 280) "Everyone possesses bias. People are mostly unaware of the bias. It is deeply engrained. It influences attitudes. It probably influences behaviour. It can be measured (or at least quantified)" (Noon, 2018, p. 199) "[] we define bias as the over- or underinflation of evaluations relative to performance for some groups because of identification that the rater may have toward his or her own or toward a reference group." (Smith
		et al., 2001, p. 338) "Biases are drivers of human error in decision-making, since they affect an individual's strategy for assessing and processing information" (Barberà-Mariné, Cannavacciuolo, Ippolito, Ponsiglione, & Zollo, 2019, pp. 2891–2891)
Groups	Ingroup / outgroup relations: Unconscious bias is what ensures ingroup coherence and provides clear demarcations to everyone outside this group	"Regardless of how bias is conceptualized, personal levels of bias predict bias meta- stereotypes almost entirely through ingroup and outgroup bias perceptions" (MacInnis & Hodson, 2013, p. 555)
		"[] bias can take a number of different forms. For instance, jurors may be more lenient toward defendants seen as similar to themselves or members of their in-group [], and more punitive toward defendants who are members of an out-group (prejudicial bias). Alternately, jurors could be more punitive toward defendants who are members of their ingroup []." (Miller, Maskaly, Green, & Peoples, 2011, p. 517) "Whereas "old-fashioned" prejudice involves belief in the biological inferiority of racial minorities and the overt expression of racial animus, contemporary forms of racial bias are considerably more complex [] contemporary racial bias reflects a conflict between Whites' explicit
		egalitarian values and their negative implicit attitudes toward racial minorities." (Murphy et al., 2012, p. 561)
Systems and society	Institutionalized unconscious bias	"[] requiring a documented primary caregiver [for a patients' access to a transplant] is its own form of bias (Marotta & Ladin, 2020, p. 631, text in [] added for clarification)
		"Tracking bias therefore provides a mechanism through which to maintain a race- based dominance hierarchy in Hungarian society." (Bruneau et al., 2020, p. 564) "In this way, we see that the problem of gender bias in leadership is not a question of men's discomfort with women leaders, but an ideological system which encourages all members of society, men and women, to internalize the belief that men make better leaders." (Cousineau & Roth, 2012, p. 429)

Apart from issues on wording and nuance, there are three general levels at which unconscious bias is theorized: at the (1) individual level, (2) group level, and (3) systems level, including society at large. We turn to these levels next.

3.2.1.1. Unconscious bias at the individual level. Unconscious biases are often defined to occur at the level of the human individual (Tetlock & Mitchell, 2009). For example, Elsbach and Stigliani (2019) state that "[i]mplicit bias has been defined as prejudice based on attitudes or associations that are held internally and unconsciously by individuals" (Elsbach & Stigliani, 2019, p. 185). Vinkenburg (2017) state that "bias in the strictest definition of the term is a cognitive distortion and is evidenced in decision making" (p. 217). However, this focus on the individual can also be found in more general definitions, for example, when unconscious biases are characterized as tacit or pre-reflexive (Gist-Mackey & Kingsford, 2020). Other studies question the assumption that unconscious bias is always overt and visible. For instance, investigating racial bias, Willard et al. (2015) argue that while some forms of bias are audible, observable, or otherwise egregious, much of modern bias has "gone underground" (p. 96), suggesting that unconscious bias impacts social and organizational contexts in ways that are more subtle, insidious, and difficult to observe. In sum, these articles theorize unconscious bias as an inherent and un-erasable part of being human (see Table 4). Such a theorization of bias on the individual level can lead to interpretations which not only individualize responsibility for discrimination but argue that individuals who are discriminated need to be fixed and change their attitudes in order for inequality to be ended. This is the case, for instance, when studies quantify the extent to which decision-makers under- or overestimate employees due to gender bias against working mothers (King, 2008) and then suggest mothers need to change themselves: "Mothers have an opportunity to proactively combat the stereotypes by directly clarifying their desire for advancement, availability for developmental opportunities, and commitment to work to ensure that false assumptions are not relied upon in decision-making" (p.1704).

Table 5
Overview of conflations

Understanding unconscious bias as		Exemplary articles
"Stereotypes"	Level of the individual	"Negative perceptions of pregnant workers are explained by some researchers in terms of the social stigma associated with the 'disease' of pregnancy (Taylor and Langer, 1977)" (Halpert et al., 1993, p. 650) "[] biases need not be consciously held: A large body of research shows that wide- spread stereotypes—for example, the notion that women are less productive than men—often shape behavior
		unconsciously, even in people who disagree with them" (Benard, 2012, p. 26) "Much evidence suggests that these biases are the result of deeply entrenched stereotypes and societal prejudice against women that cause individuals to discount female competency in the workplace" (Sayers, 2012, p. 522)
	Level of the group	"[] when we include the sex of the leader in our analysis, we find that female leaders are still negatively impacted by gender stereotypes." (Rhee & Sigler, 2015, p. 123) "Its central argument is that gender bias in evaluation is a major contributor to the scarcity of women in upper level organizational positions, and that gender bias is rooted in gender stereotypes." (Heilman, 2012, p. 114)
"Prejudice"	Level of the individual	"Because implicit prejudice arises from the ordinary and unconscious tendency to make associations, it is distinct from conscious forms of prejudice, such as overt racism or sexism. This distinction explains why people who are free from conscious prejudice may still harbor biases and act accordingly." (Banaji et al., 2003, p. 58) "Our findings are consistent with our proposition that negative meta-stereotyping is rooted in self-perceptions of personal bias, regardless of whether one is low or high in prejudice relative to others in the sample." (MacInnis & Hodson, 2013, p. 556)
	Level of the group	"We have focused thus far on the concept of prejudice or intergroup bias. These terms describe the tendency to evaluate ingroups (groups to which an individual belongs) more favorably than outgroups (groups to which the individual does not belong)."(Correll, Park, & Allegra Smith, 2008, p. 472) "Bias in the strictest definition of the term is a cognitive distortion and is evidenced in decision making. [] Gender bias is defined as our prejudice in favor of one gender over the other, generally used as "bias against women." (Vinkenburg, 2017, p. 217)
Between	Level of the individual	"In terms of organizational research, bias is often operationalized as a significant main effect difference between the evaluations of two target individuals who, all else being equal, vary only by some stigmatized quality or characteristic extraneous to their qualifications or job performance." (Rudolph, Wells, Weller, & Baltes, 2009, p. 1) "[] we showed that interviewers' confidence is driven by the effects of applicant stigma during the initial rapport-building stage. []Hence, study findings showed that applicants' stigma affects not only the interview outcome but also the interviewer" (Buijsrogge et al., 2016, p. 287)
	Between individual and group level	"[] when ventures are pitched in the same way, investors significantly prefer pitches made by men over those made by women. One possible explanation for these biases is the so-called cupcake stigma" (Hernandez et al., 2019, p. 71) My models show that a given player gets more playing time with a coach of his race than with a coach of a different race, even with no difference in performance. This racial bias is moderated by the duration of the coach's relationship with" (Zhang, 2017, p. 612)
	Level of the group	"[] stigma transfers in response to bias against, or inclusion of, outgroup members"(Chaney et al., 2020, p. 2)

Table 6 Normative views on bias.

Unconscious bias is treated as a problem of	Outcome from unconscious bias is	Exemplary articles
Ethicality / morality	Unethical behavior	"In light of these gender differences in ethical orientation, the previous section's account of what — according to economic rationality — constitutes reasonable business behavior clearly exhibits a male gender bias." (Dobson & White, 1995, p. 466) "[] we observed that women behaved less ethically than men. However, three follow-up studies demonstrate that this gender difference in unethical behavior can be explained by a gender difference in assertiveness." (Bossuyt & Van Kenhove, 2018, p. 727) "This implicit form of discrimination, also called subtle, unconscious or automatic (Blank et al., 2004, p. 59), may bedevil even human resource managers who try to do their jobs according to high ethical standards." (Demuijnck, 2009, p. 91)
	Unethical decision-making	"[] four related sources of unintentional unethical decision making: implicit forms of prejudice, bias that favors one's own group, conflict of interest, and a tendency to overclaim credit." (Banaji et al., 2003, p. 56) "Managers of client-serving organizations would do well to take the time to investigate the client's real views regarding equal opportunity, rather than being led, consciously or unconsciously, by perceived norms. If the client turns out to be biased, these managers face a true ethical dilemma, the resolution of which may rest on their organizations' degree of commitment to formal policies of equal opportunity." (DiTomaso, 2021, p. 520)
Rationality	Flawed decision-making as rational for the biased individuum	"Rational bias is based on the notion that a manager's decision about whether to discriminate will partly depend on the effect the decision may have on his or her career." (Larwood, Szwajkowski, & Rose, 1988, p. 10) "[] two forms of dehumanization result from the denial of two distinct senses of humanness. Those who are likened to animals are denied uniquely human characteristics [] and are therefore seen as irrational, uncultured, coarse, and amoral." (Vaes & Paladino, 2010, p. 26) "[] system justification theory (e.g., Jost & Banaji, 1994). According to this theory, people are motivated to justify and rationalize aspects of the current social system, including existing inequalities. However, the status quo is not justified solely by people who are advantaged by the system." (Bonnot & Jost, 2014, p. 454) "[] various factors impact upon the perception and give rise to distortions, which are known as "cognitive biases". First, individuals' bounded rationality is overwhelmed by the cognitive complexity of the observed stimulus. Individuals resolve this by [] the socalled "simplification biases" (Valle Santos & García, 2006, p. 763)

3.2.1.2. Unconscious bias at the group level. Another way to address the tangle of definitions is to consider unconscious bias in relation to more general categorizations of the subjects under study (Deng, Liang, Li, & Wang, 2020; Finkelstein et al., 2007; Madden, 2012; Yair, 2009). We find that many articles define bias at the level of a group of individuals. The most prevalent in this regard is gender bias (Pichler et al., 2008; Truss et al., 2012; Wilkins, Wellman, & Schad, 2017), in which articles typically consider groups of men/women.

Compton (2016), for example, defines unconscious bias in relation to gender, stating that "Gender bias is defined as our prejudice in favor of one gender over the other, generally used as 'bias against women'" (p. 2170). Sometimes, it is also expressed as a "pro-male bias", which Matsaganis (2007) discusses in the following way: "As Jordan (1991) argues, 'a pro-male bias tends to be greatest when the task at hand is incongruent with gender role expectations for women'" (p. 242). As Cousineau and Roth (2012) show, gender bias and pro-male bias can be the same: "Even in the working environment of live-in summer camps, where feminine-linked traits are required (nurturance, empathy, community-building, caring), participants in the focus groups showed a distinct gender bias in favor of males" (Cousineau & Roth, 2012, p. 434).

The second most prevalent group-level definition focuses on racial bias (Caver & Livers, 2002; Demuijnck, 2009; Grandey, Houston, & Avery, 2019). Zhang (2019), for example, defines racial bias as follows: "Racial bias refers to the unequal treatment of persons or groups on the basis of their race" (p. 41). Here, articles often distinguish groups by skin color; for example, Wilkins, Hirsch, Kaiser, and Inkles (2017) find that "when experiencing threat due to racial progress, Whites might be motivated to perceive racial bias because the more they do, the better they feel about themselves" (p. 809). Apart from gender and race, numerous articles report on smaller groups, such as bias against people who smoke (Roulin & Bhatnagar, 2020), overweight people (Finkelstein et al., 2007), or immigrants (Shih, 2006).

Other studies, such as that by Smith, DiTomaso, Farris, and Cordero (2001), refer more generally to bias: "We define bias as the over- or underinflation of evaluations relative to performance for some groups because of identification that the rater may have toward his or her own or toward a reference group" (p. 338). We find that this category of studies theorizes bias as existing between clearly demarcated groups in which an individual is either a part or not. We will return to this matter again in Section 3.3.3. For the sake of untangling the different definitions of unconscious bias, we classify this stream of literature as in-group and out-group relations (see Table 4).

3.2.1.3. Unconscious bias at the system/societal level. A last, and less common way to define bias is via a systemic perspective (Vinkenburg, 2017; Whisenant, Miller, & Pedersen, 2005). Instead of attributing bias to a necessarily flawed individual or groups that compete for resources, studies in this research stream theorize unconscious bias as embedded in larger structures, such as bureaucratic

Table 7Mapping of the main groups of biased subjects (individuals).

In which context occurs the bias?	Exemplary articles
Hiring decisions	"Participants who endorsed elitism showed a preference for White candidates, whereas those who endorsed egalitarianism evaluated Black candidates more favorably" (Reynolds, Zhu, et al., 2020, p. 1) "We found that imagining an ideal employee led people to narrowly imagine White employees, while
Promotion decisions	neglecting to consider members of other racial groups." (Brown-Iannuzzi et al., 2013, p. 668) "This bias against qualified and skilled immigrant applicants was attenuated when fit with a diverse clientele was emphasized, but not when fit with a homogeneous clientele was emphasized or when the
	hiring strategy was not explained." (Dietz et al., 2015, p. 1318) "For whatever the degree of male sex-typing of the job, perceptions of a woman applicant can be distorted to tit with stereotype-based expectations unless such distortion is blocked by information clearly predictive of successful job performance." (Heilman et al., 1988, p. 101)
Investors making investment decisions	"Attractiveness biases may be even more subtle and difficult to detect. The candidates in our study were all very normal and professional in their appearance, yet the ones who were of above average attractiveness enjoyed a distinct advantage over the others." (Marlowe, Schneider, & Nelson, 1996, p. 19)
	"But even when ventures are pitched in the same way, investors significantly prefer pitches made by mer over those made by women." (Hernandez et al., 2019, p. 71) "Our results suggest an unintentional double standard at play in the venture capital industry. [] The fact that both male and female VCs display implicit bias, holding men and women to different standards, implies that the funding disparity cannot be corrected by merely ensuring that more female VCs are in a
Women leaders	position to evaluate investment opportunities." (Kanze, Huang, Conley, & Higgins, 2018, p. 603) "Females delivering discipline were perceived to be less effective and less fair than males. Both recipients biases and behavior differences by male and female supervisors appear to contribute to reduced
	effectiveness." (Atwater, Carey, & Waldman, 2001, p. 537) "[] men are viewed as more suited for management careers ("think leader, think male") and that womer will suffer negative evaluations when they occupy or seek traditionally male-typed jobs (Heilman et al. 1988). Interestingly, we found that both male affemale managers perceived female subordinates as
Race	lower in career motivation." (Hoobler, Lemmon, & Wayne, 2014, p. 720) "[] our research suggests consumers respond unfavorably to Black leaders only when they are motivated to apply instead of suppress racial stereotypes." (Avery, McKay, Volpone, & Malka, 2015, p. 99) "[] the proportion of Black patients is significantly associated with lower earnings for entrepreneuria
Nationality	Black doctors, higher earnings for entrepreneurial White doctors, and has no association with the earnings of either Black or White doctors who work in nonentrepreneurial settings" (Kornrich, 2009, p. 400) "This bias against qualified and skilled immigrant applicants was attenuated when fit with a diverse clientele was emphasized, but not when fit with a homogeneous clientele was emphasized or when the hidney strategy, we not emplained." (Diet et al. 2015, p. 1219)
Students	hiring strategy was not explained" (Dietz et al., 2015, p. 1318) "Videotapes were used in two laboratory experiments to examine the extent and nature of bias toward emotionally disabled workers in performance appraisals. [] Subjects were 60 undergraduate students (31 women) enrolled in management courses." (Czajka & DeNisi, 1988, p. 396)
	"In the present paper, we [] examine whether gender biases arise when leadership behaviors are initially encountered and encoded into their underlying traits by observers." (Scott & Brown, 2006, p. 231) "One hundred and thirty-nine undergraduate students from a large Canadian university participated in this study in exchange for extra credit towards their introductory psychology course grade." (Scott &
	Brown, 2006, p. 234) "Participants examined a situation in which a firm was to deal with a customer concerning a potential contract and responded to questions about how the client would react to a male or female being sent to negotiate with them." (Szwajkowski & Larwood, 1991, p. 519)
	"[] the present study examined the survey responses of management students, not managers. While eight in 10 of the students were currently employed, a number of them (26 per cent) in supervisory positions, the extent of their managerial experience was necessarily limited" (Szwajkowski & Larwood,
M-turk respondents	1991, p. 521) "We examined this possibility in the context of a successful bias literacy program, Video Interventions for Diversity in STEM (VIDS; Moss-Racusin et al., in press). In two studies with working adults from the general public (N = 343) and science faculty (N = 149)" (Hennes et al., 2018, p. 788)
	"[] the unique opportunity to explore the current research questions using participants from our primary population of interest, who tend to be more difficult to recruit than members of the general population" (Hennes et al., 2018, p. 806)
	"Using original data from an Internet-based survey experiment, I investigate the potential unintended consequences of WHP [workplace health promotion] programs and examine the impact of having such programs on evaluations of overweight and obese employees." (Powroznik, 2017, p. 140) "A total of 455 individuals were recruited through Amazon.com's Mechanical Turk (Mturk) to participate in this study" (Powroznik, 2017)
	bias? Hiring decisions Promotion decisions Investors making investment decisions Women leaders Race Nationality Students

requirements for transplants (Marotta & Ladin, 2020) and framing issues such as racism and sexism as "societal problem[s]" (MacInnis & Hodson, 2017, p. 736). Bai and Federico (2020), for example, refer to a number of recent lawsuits in the US, stating that "The number of recent anti-male discrimination lawsuits (e.g., EEOC v. LA Weight Loss, 2007; EEOC v. Razzoo's, 2008; Hayes v. Napolitano, 2012; Rudebusch v. Hughes, 2002) is also consistent with growing societal recognition of anti-male bias in the US" (p. 174).

Table 8
Mapping of bias in organizations, processes and society.

Who is biased?	In which context occurs the bias?	Exemplary articles
Organizations	Unspecified/General discrimination	"[]women generally absorb more collaborative demands in the workplace than their male peers do." (Bower, 2019, p. 20)
		"[]both subtle and more blatant forms of discrimination continue to exist in many organizations. [] complaints of unfair treatment and subsequent legal proceedings are likely to persist for years to come." (Elkins, Phillips, & Konopaske, 2002, p. 290)
		"In addition to interventions in the resume-screening tool and with decision-makers, organisations as well as society at large could develop policies and procedures to record discriminatory screening practices, to monitor recruitment messages/sources and to guarantee competence-based assessments through discrimination-free employment arrangements." (Derous & Ryan, 2019, p. 122)
	Unions	"[]the article offers evidence that women in Ontario, as elsewhere, are more likely to vote in favour of unionization than men, even in the face of intense employer opposition. But women must work harder to get unions to organize them." (Yates, 2006, p. 566)
		"Greek unions are incapable of pursuing encompassing interests; therefore, they are prone to defending the status quo and the acquired rights of a shrinking minority of over-protected employees." (Matsaganis, 2007, p. 551)
Processes	Jobsearching process	"The nonsearch process "corrects" gender misfits: Job informants recruit workers in gender-atypical work settings into gender-typical ones. Some women misfits may also enter male-dominated work groups without a job search, but they fail to receive the same kinds of job rewards received by men misfits who enter male-dominated work groups without searching." (Kmec et al., 2010, p. 227)
	Promotion process	"We demonstrate this structural gender bias at each of the first three stages of an academic career: PhD, postdoc and other temporary positions, and assistant professorship. [] we want to draw attention to the need to include a gender perspective in all academic decision-making processes, in order to transform unequal gender structures and promote gender equality." (Steinþórsdóttir, Brorsen Smidt, Pétursdóttir, Einarsdóttir, & Le Feuvre, 2019, p. 126)
		"There's also a robust literature on how to take bias out of the interview process, which boils down to this: Stop going with your gut." (Morse, 2016a, p. 65)
Societies	Pervasiveness of bias throughout society	"Structural inequality is one way whites help other whites, and embedded or implicit cultural associations are consistent with favoritism toward whites as much as with disfavor toward nonwhites" (DiTomaso, 2015, p. 61)
		"[] when society is framed as resting on the promotion of cultural diversity, then those who identify as Hindu can feel secure in their majority identity and do not have to respond with stronger in-group bias." (Ng Tseung-Wong & Verkuyten, 2018, p. 345)
		"Tracking bias therefore provides a mechanism through which to maintain a race-based dominance hierarchy in Hungarian society" (Bruneau et al., 2020, p. 564)

3.2.2. Conflations with other terms

We find that the tangle of definitions around the term "unconscious bias" is further complicated by the fact that the literature often conflates the term "bias" with other concepts, such as stereotype (Burke et al., 2008) and prejudice (Maddux et al., 2020). For example, Sayers (2012) understands stereotypes and prejudice as the roots of bias, stating that "evidence suggests that these biases are the result of deeply entrenched stereotypes and societal prejudice against women that cause individuals to discount female competency in the workplace" (p. 522). Similarly, Milkman, Akinola, and Chugh (2015) state that "Bias may emerge from the activation and application of stereotypes" (p.16).

Definitions of stereotype and prejudice bear great resemblance to how bias is defined. In fact, bias, stereotype, and prejudice seem to be linked as they come into play when issues such as discrimination and inequalities are discussed. Although we find differences between how the terms "bias" "stereotype" and "prejudice" are used (a point to which we return shortly), there are also commonalities to the point that the extant literature sees all three terms as linked and interrelated. That said, we could not identify a general pattern, let alone a common agreement as to how all these words might relate causally, temporally, or spatially.

For instance, the concept of stereotypes is often used to refer to the fact that a specific social group is seen to be more likely to succeed in a specific profession. This can be internalized and thereby impact the pre-reflexive, unconscious perception of candidates' CVs, and so reinstate prejudices – the preconceived feelings about people – and thus result in a decision-making bias when it comes to selecting the best candidates for a job or promotion.

Some studies discuss the relationship between bias and stereotype. Kawakami, Dovidio, and van Kamp (2007) refer to stereotyping as follows: "Stereotyping involves two separate processes, stereotype activation and application (Gilbert & Hixon, 1991). A stereotype refers to the association of specific traits, roles, and characteristics with a person or a group based on group membership" (p. 139). The authors explain that stereotype activation involves the cognitive accessibility of such associations, whereas stereotype application involves using stereotypic associations for making decisions or judgments about one person or a group of persons (Kawakami et al., 2007). Milkman et al. (2015) shed light on the relationship between bias and stereotype by suggesting that "bias may emerge from the activation and application of stereotypes, which can harm how women and minorities are perceived" (p. 1680). We also find that some authors use the words "bias" and "stereotype" synonymously (Woodcock & Monteith, 2013). This points to how closely these concepts are related. For example, a study by Brown-Iannuzzi et al. (2013) found that the use of stereotypes, such as connecting names like Brad or Gregg with White skin and names like Jamal with Black skin, triggered biases in study participants. In this sense, in some articles, such as that by Wigboldus, Spears, and Semin (2005), the authors seem to inadvertently stereotype themselves against women, for

Table 9Mapping unconscious bias research using binary configurations.

Binary	In which context occurs the bias?	Exemplary articles
Woman-man	Gender bias	"Gender bias refers to negative attitudes and behavior toward women because of their sex." (Auster, 1989, p. 176) "Imagine a mixed-gender interaction between a man named Barney and a woman named Lily. [] Lily needs to gauge how much of a hostile sexist Barney is in order to adjust her behavior (e.g., her
	At the workplace in general	judgment may help her decide to end the interaction early)." (Goh, Rad, & Hall, 2017, p. 852) "Women will be represented significantly more in lower-level human resource management jobs in organizations that emphasize employee involvement" (Pichler et al., 2008, p. 465) "[] the chances of female researchers being hired are lower by 10.2% and 9.3% respectively when evaluated by all-male committees []This result shows bias against women in hiring." (Checchi et al., 2019, p. 479)
		"An extensive literature suggests that wage inequality is socially constructed and that work in women's occupations is undervalued by reason of institutionalized bias against women" (Addison et al., 2018, pp. 210–211)
	In performance	"Organizations may want to consider incorporating into management training discussion of and/or training on the dynamics of gender issues so as to enhance managers' awareness of the ways in which personal biases can influence the performance evaluation process." (Varma & Stroh, 2001, p. 317) "[] skills are not technically but socially determined and that the skills that women use in their job
	evaluations	are not fully recognized and evaluated. Skill is defined to give priority to traditionally 'male' work." (C. Kim & Sakamoto, 2008, p. 43) "[]'the microlevel research on evaluation bias is important because it highlights how cog-nitive
		processes and their interaction with per-formance appraisal and compensation decisions contribute to gender bias between men and women. The weakness of this approach is its relative lack of attention to how contextual conditions affect bias." (E. R. Auster, 1989, p. 178)
People with dark(er) and light (er) skin colours	Racial bias	"As a measure of self-acknowledged ingroup favoritism, participants indicated the extent to which they personally favor Whites over Blacks ($0 = \text{not}$ at all, to $10 = \text{very}$ much). To measure perceived ingroup (White) ingroup favoritism, participants indicated both the percentage (0% to 100%) of Whites who favor Whites over Blacks, as well as the extent to which Whites favor Whites over Blacks ($0 = \text{not}$ at all, to $10 = \text{very}$ much)" (MacInnis & Hodson, 2013, pp. 552–553)
		"White service providers are rated highly regardless of emotional labor, but performing more emotional labor (i.e., amplifying positive expressions) is necessary for Black providers to increase warmth judgments and reduce the racial disparity." (Grandey et al., 2019, p. 2163) "People may be convinced and militant anti-racists and nevertheless, in a puzzling way, be
	Race intersecting with gender	influenced by subtle prejudices." (Demuijnck, 2009, p. 91) "Women are at some advantage in overall hire probability, but this disappears once occupation is controlled. [] Hispanic men are at major and significant disadvantage in getting hired." (T. Petersen et al., 2005, p. 436)
		"[]males and whites were generally preferred to females and blacks when no counternormative signals were given" (Larwood et al., 1988, p. 25) "An interaction between candidate gender and race emerged for those in physics, whereby Black
Able-bodied – not able bodies	Hiring process	women and Latinx women and men candidates were rated the lowest in hireability compared to all others." (Larwood et al., 1988, p. 127) "While confinement to a wheelchair did not appear to lower the interviewee's selection chances, a
		psychiatric disability clearly did." (Stone & Sawatzki, 1980, p. 101)
	Social relationships	"[] disability might influence exchange quality not only because raters are less willing to enter high quality relationships with persons who are dissimilar to them, but also because leader expectations about persons with disabilities might preclude their assigning certain tasks to these persons, which would mean they would not have the same opportunity to prove their worth to the leader as would other members. This "opportunity bias" could then also result in lower quality exchange relationships." (Colella et al., 1997, p. 36)
Ingroup-outgroup	Decision-making	"As expected, groups that made joint decisions displayed a stronger intergroup bias than did individual group members who acted in isolation." (L. E. Petersen et al., 2004, p. 112)
	Favouritism	"To measure ingroup favoritism participants were informed that another aim of the research was to gain students' opinions about how government-allocated money to universities in the local region should be divided. [] We coded the ingroup percentage allocation as a measure of ingroup favoritism." (Crisp & Beck, 2005, p. 175)

example, by making claims about the attributes that make for women's work.

Similarly, some studies refer to bias as an embodiment of prejudices (Festing, Kornau, & Schäfer, 2015; Jost et al., 2009). Certain studies use the concept of bias synonymously with prejudice (Murphy, Richeson, Shelton, Rheinschmidt, & Bergsieker, 2012; Schmader, Croft, Scarnier, Lickel, & Mendes, 2012; Woodcock & Monteith, 2013). Others appear to conflate bias, prejudice, and stereotype, for example, when they state that "the psychological biases that have been discussed are the nonconscious or implicit prejudice and stereotypes held by health care providers" (Zestcott, Blair, & Stone, 2016, p. 529). MacInnis and Hodson (2012) state that "prejudice-prone individuals, it seems, are biased against sexual minorities due to their deviant status rather than sexual actions per se" (p. 731). Ariyanto, Hornsey, and Gallois (2007) find that "there is no doubt that media bias can be real; in all sorts of overt and subtle ways, media can prejudice one argument over another" (p. 266). This may relate to the fact that the ways in which prejudice is

Table 10Mapping unconscious bias in workplace practices.

Workplace issue under consideration	In which context occurs the bias?	Exemplary articles
Recruitment	Bias affecting decision- making	"When participants felt accountable for their decisions, believed their decisions had real-life consequences, or were reminded of equity norms, they tended to make less biased decisions about male-dominated jobs than when none of these features were present." (Koch et al., 2015, p. 139)
	Bias reduction	"Our results suggest that, by themselves, bias-remediation policies designed to reduce gender discrimination in screening are likely to be of limited help in addressing the problem of the glass ceiling." (Fernandez & Campero, 2017, p. 99)
Promotions career paths	Gendered and sexualized career paths	"Given that women are more likely to be represented in lower-level HR managerial jobs in organizations that emphasize employee involvement, our results further support existing theory and research that suggest that women will be favored for jobs that are sex-typed as feminine (Heilman, 1983)" (Pichler et al., 2008, p. 473)
		"In sum, the direct effect of employer bias and the influence of bias-driven occupational sorting are expected to depress the earnings of lesbian, gay, and bisexual workers relative to their heterosexual peers." (Blandford, 2003, p. 625)
	Barriers to promotions	"[] our findings strongly indicate that female workers face more career impediments in certain firms and that they attempt to overcome these barriers by searching for better jobs in fairer companies." (Merlino, Parrotta, & Pozzoli, 2018, p. 673)
	Performance and evaluations	""Does the amount of information about candidates and jobs affect differential evaluation?" [] The following analysis indicates that the answer is yes." (Tosi & Einbender, 1985, p. 713) "Managers of client-serving organizations would do well to take the time to investigate the client's real views regarding equal opportunity, rather than being led, consciously or unconsciously, by perceived norms" (Szwajkowski & Larwood, 1991, p. 520)
Wage setting		"[] attractiveness had a significantly stronger link with shop-floor managers' than senior managers' pay, [] It further emerged that women were paid more in this experimental task where pay was awarded solely based on facial features and that the facial features were more predictive of women's than men's pay."(Fruhen et al., 2015, p. 1005)
		"If a high proportion of blacks become discouraged and cease searching for jobs, and if those dropouts have, on average, poor job prospects, the average wage of black workers who remain in the labor market will be an upwardly biased estimate of the average wage across the population" (Juhn, 2003, p. 643)

Table 11
Mapping of unconscious bias as a fixable issue.

Level of unconscious bias	Context of the solution proposed	Exemplary articles
Individuals	Corporate decision-making	"Beyond enhancing efficiency, algorithmic aids can help investors become aware of, and potentially overcome, biases in decision-making. For example, Venture Science uses a quantitative investment strategy that incorporates AI and decision theory to compute the risk associated with a variety of decision-making categories — from vision and team completeness to geographic proximity to tech centers to market size and sales funnels." (Hernandez et al., 2019, p. 74)
	Training	"A first recommendation is to intervene in the performance appraisal process to decrease imprecision or inaccuracy. A solution could be to avoid relying exclusively on supervisory ratings and to collect performance evaluations from employees in the network, as suggested by Luria and Kalish (2013). As direct contacts have a great amount of information but are also biased, HR managers should collect information from other network sources to improve precision and accuracy." (Bizzi, 2018, p. 524) "If employees could communicate more effectively regarding their expectations, and if they could listen to the arguments of other employees, conflict resolution may begin. A first step in this process may be to develop training on "generational intelligence," which is a way of becoming aware of one's own generational identity, understanding the differences between self and others, and learning to act in ways that are generationally sensitive (Biggs and Lowenstein, 2011)." (Weeks, Weeks, & Long, 2017, p. 49)
Organizations	Multi-level interventions and policies	"[] family-friendly policies that, at face value, appear to be lightening the work-family load, at closer inspection, do not address the real problem of the devaluation of caregiving roles. In fact, on-site child care designed to help mothers may actually be cementing their workplace inequality. What is needed instead are policies that address the ways gender and family roles are constructed and valued within families and organizations." (Hoobler, 2007, p. 378) "[] we stressed the lesson of complexity theory — that complex systems continually evolve reflecting the interactions of components on many levels and even reflecting the system's ability to transform the nature of those various levels (Cilliers, 2001). This means that general prescriptions for reducing gender bias in leadership may not be appropriate in specific organizations. It also means that to be effective, interventions may need to occur at multiple levels with the problem of developing interventions compounded by the various ways that bias can be defined" (Hogue & Lord, 2007, p. 386)

captured highly resemble how bias is also captured (Johnson, Terry, & Louis, 2005; Pahlke, Patterson, & Hughes, 2020). For example, Eller and Abrams (2003), who study intergroup biases via a questionnaire, ask questions, such as "Do you personally, in your daily life, find the presence of Mexicans in the US disturbing?" (p. 61). However, there is no clear explanation regarding how far this should

capture specifically a respondent's bias and not their stereotype. We conclude that current understandings and theorizations of bias are often tightly entangled with the concepts of prejudice and stereotype.

Lastly, there are entanglements with the term "stigma". Derous et al. (2016) explain stigma in the following way: "visible, non-concealable stigma that could include gender, age, race or ethnicity, physical disability or a facial stigma (uncontrollable) or pregnancy, signs of religion or religious beliefs, tattoos and overweight or obesity (mostly thought/marked as controllable)" (p. 91). Others understand stigma to arise as a result of bias (Chaney, Sanchez, & Remedios, 2020). For example, Lim, Trau, and Der Foo (2018) explain that "if one is biased against stigmatized coworkers, he or she is less likely to interact with them beyond what is necessary. This is because stigmatized groups tend to be excluded from informal social interactions" (p. 1388). Although the exact relationship between stigma and unconscious bias remains opaque, there is an understanding that both terms relate to and mutually constitute each other. For example, Buijsrogge, Derous, and Duyck (2016) report the following: "... interview judgments of stigmatized applicants were negatively biased, and interviewers reported overconfidence in these judgments. Results show that interviewer (over)confidence in biased judgments is driven by the initial effects of, and reactions to, the stigmatized applicant" (p. 275).

3.2.3. Normative definitions of unconscious bias

There is a stream of literature that theorizes unconscious bias from a more normative viewpoint, implying that there are right, or accurate, and wrong ways to make a decision or come to a conclusion (Czajka & DeNisi, 1988; DiTomaso, 2021; Pingitore, Dugoni, Tindale, & Spring, 1994; Tetlock & Mitchell, 2009). Although this is related to the characterization of bias at the individual level (as outlined previously), the approaches presented here differ from this understanding in that they attribute a type of judgment to the idea of bias, voicing concern about how bias can affect values around truth or morality.

For example, Koch et al. (2015) define gender bias as an "inaccurate evaluation reflecting a generalization rather than an individual's true qualities" (p. 129). Here, unconscious bias is framed as a mistake, attributing an inherent *wrongness* to the biased evaluation. In the same vein, Banaji, Bazerman, and Chugh (2003) detail that there are "four related sources of unintentional unethical decision making: implicit forms of prejudice, bias that favors one's own group, conflict of interest, and a tendency to overclaim credit" (p. 56). Studies sometimes also differentiate between logical and rational vis-à-vis biased reasoning (e.g., Anderson, Beattie, & Spencer, 2001). Others argue that bias may be the unintended by-product of situation-specific perceptions applied to ordinary decision-making processes (Szwajkowski & Larwood, 1991). Similarly, Reynolds et al. (2020) rely on Thaler (2015), defining unconscious bias as "a systematic deviation from rational consistency, whereby judgment is influenced by factors irrelevant to the ostensible goal" (p. 120). In these cases, bias is theorized as something that hinders effective decision-making and the attainment of a desirable goal, and bias is emphasized as a problem for those who are biased but not necessarily those affected by a biased person.

3.3. A qualitative mapping of the literature

The following section maps the identified streams of unconscious bias research emanating from our review. In mapping these dominant streams, we also outline current theorizations of unconscious bias, which most often thematize social inequalities in organizations. At the same time, this mapping also shows what issues still remain understudied. A vast majority of articles contribute to discussions that focus on (1) the biased individual; (2) bias as binary; (3) bias in moments of decisions; and (4) bias as a fixable issue. We turn to these discussions in the following sections.

3.3.1. The biased individual

The first stream theorizes unconscious bias as an individual concern. Discussions here are directly linked to understanding unconscious bias as an inherently human phenomenon that affects an individual's cognition and decision-making, as outlined in Section 3.1.1. above. Consequently, this stream focuses on decision-makers in different more or less privileged positions, with the vast majority homing in on managers (Bentley et al., 2019; Gerdes & Garber, 1983; Madden & Vekker, 2017; Petersen, Saporta, & Seidel, 2005; Pichler et al., 2008; Ugarte, 2017) and other individual decision-makers (Derous & Ryan, 2019; Gorsuch, 2019), typically at higher levels within a firm. For example, King (2008) considers career advancement and investigates "the extent to which decision-makers under-estimate mothers' (or overestimate fathers') commitment to, involvement in, or availability" (p. 1678). Other studies examine clients' biases (Cohen, Dalton, Holder-Webb, & McMillan, 2020; Einarsdóttir & Rounds, 2009; Szwajkowski & Larwood, 1991). Here, clients' power is either directly or indirectly related to their importance for the continued existence of a business. Most of the discussions around unconscious bias and clients focus on race and racism. Wissinger (2011), for example, mentions that "employers' desire for workers with a particular 'look' and workers' willingness to call on personal resources to style that 'look' for the job, foster a structural bias" (p. 126) and relates this back to "clients' expectations of what black should look like" (p. 137). Furthermore, biased individuals are discussed to engage in biased practices. Saifuddin, Dyke, and Hossain (2019), for example, explain that "... gender roles give rise to stereotypes such that employers often form a preconceived notion that women are not suitable for technical jobs or for jobs that require client site visits. The stereotypes and biases result in discriminatory practices in recruitment and advancement" (p. 719). A decision-maker's unconscious bias can also be impacted by colleagues outside of their organization. For instance, Park and Westphal (2013) demonstrate that White male CEOs of large- and mid-sized public US companies underplay the performance of minority and women CEOs of other companies because of out-group biases.

It should be noted that the majority of studies that set out to target the bias of decision-makers and managers rely on student respondents as proxies (Arkkelin & Connor, 1992; Bragger, Kutcher, Morgan, & Firth, 2002; Czajka & DeNisi, 1988; Dietz, Joshi, Esses, Hamilton, & Gabarrot, 2015; Florea, Valcea, Hamdani, & Dougherty, 2019; Güngör & Biernat, 2009). In a study about unconscious bias against pregnant women (Halpert, Wilson, & Hickman, 1993), students evaluated videos of non-pregnant and pregnant women in

assessment center situations, concluding that managers' unconscious biases against pregnant women affect performance evaluation. Highlighting gender bias in leader selection, a study by Bosak and Sczesny (2011) asked students to imagine the role of a personnel manager in charge of evaluating applicants for a leadership position.

Using students as proxies has benefits and limits. Working with students as proxies can – as Mook (1983) argued – help us to understand underlying everyday phenomena, especially when research interest is not directly linked to specific organizational processes. However, there are also some clear limitations to this approach. Some authors point out these limitations, arguing that generalizability might be questionable (Bosak & Sczesny, 2011) and that "future research should use managers and human resource professionals who are experienced in making hiring decisions and who might be more aware of potential biases in this process" (p. 240).

Another widespread source of respondents in the reviewed studies is Amazon's Mechanical Turk platform (Martinez, White, Shapiro, & Hebl, 2016; Powroznik, 2017; Reynolds, Zhu, Aquino, & Strejcek, 2020). For instance, a study on bias and behavioral norms based on sex and sexual orientation in the labor market (Gorsuch, 2019) used an online laboratory setting in which the participants, recruited via MTurk, were asked to evaluate résumés that were manipulated on sex, perceived LGBT status, and the use of traditionally masculine or feminine adjectives. The author argued that concealing the task was a necessary and acceptable part of their laboratory research study. This approach reduced the chance that the participants would alter their behavior, for example, to avoid appearing discriminatory or to help the researchers, and the latter would thus obtain the desired results. However, this raises ethical concerns because it is unclear how far the study participants have (or have not) been made aware of how their input is being used. In sum, we find that a large body of studies that discuss managerial decisions do not actually investigate managers' or other organizational decision-makers' biases but instead draw on students or, as in the case of Amazon's MTurk, hire a nameless and faceless group of online workers to fill out their surveys.

Although an extensive share of bias research focuses on decision-makers evaluating people top-down, some studies highlight subordinates' evaluations of managers and leaders (Obenauer & Langer, 2019; Rhee & Sigler, 2015). Here, most studies investigate bias against women (Brands, Menges, & Kilduff, 2015; Hogue & Lord, 2007; Hoyt, Simon, & Reid, 2009) and racial minorities (Obenauer & Langer, 2019; Zapata, Carton, & Liu, 2016) in bottom-up evaluations. For instance, a study by van Gils, Van Quaquebeke, Borkowski, and van Knippenberg (2018) showed that when subordinates are managed by a female leader, their stereotypical perceptions of the leadership role conflict with their stereotypical perceptions of the female social role, leading to a more negative evaluation of women leaders. Furthermore, some studies have focused on the biased opinions of subordinates toward leaders. Elsesser and Lever (2011) find cross-sex favoritism, arguing that men favor women leaders and women favor male leaders. This study also finds sexism revealed in descriptions of women managers, for example, when they are described as "pretty" and "sexy" or "bitchy" and "catty" (p. 1573), which are gender-stereotypical and discriminatory labels. Altogether, these studies show how bias can also reside in individuals in non-dominant social positions.

Finally, some studies have focused on biased individuals in terms of race and ethnicity. For instance, Grandey et al. (2019) investigate customers who exhibit racialized bias against customer service providers. The authors illustrate how customers rate White and Black service providers different⁶. White service providers are rated highly, even without exerting emotional labor, whereas Black service providers have to perform more emotional labor (i.e., amplifying positive expressions) in order to achieve higher evaluation scores from customers. A study by Livingston, Schilpzand, and Erez (2017) also found that messages "delivered in a standard American accent had a distinct advantage over a message that was delivered in a nonnative accent, resulting in a more favorable choice decision by listeners" (p. 825). This practice has implications for management decisions, as Szwajkowski and Larwood (1991) point out:

Managers of client-serving organizations would do well to take the time to investigate the client's real views regarding equal opportunity, rather than being led, consciously or unconsciously, by perceived norms. If the client turns out to be biased, these managers face a true ethical dilemma, the resolution of which may rest on their organizations' degree of commitment to formal policies of equal opportunity. If not, the 'dilemma' disappears. (p. 520)

Overall, there is a thriving research interest in biased individuals within the HRM domain. However, we may know less about biased managers and other high-level decision-makers, given that studies making claims about such individuals often rely on students or others to answer their surveys or participate in their experiments. Furthermore, the focus on the individual generally leads to less emphasis on structural and systematic levels of bias. Next, we discuss how unconscious bias is framed in binary terms, often show-casing differences between distinct opposing groups.

3.3.2. Bias as binary

A second stream of research theorizes biases as arising between members of clear-cut groups that are framed as opposite. The most prevalent opposites discussed are the binaries of men and women, dark- and light-skinned people, and, more generally, in-group and out-group members. We explain and further map out these opposites and the treatment of biases in these binaries.

A clear majority of articles treat bias as relating to gender, typically presenting the groups of men and women as diametrical opposites. The unconscious bias studied here is most often directed against women, both by men and other women (Braddy et al., 2020; Hoyt et al., 2009; Kawakami et al., 2007; Truss et al., 2012). However, there are exceptions, such as Petersen et al. (2005) who

⁶ A note on spelling: As suggested by Prof. E. Harding (https://news.ucdenver.edu/is-the-b-in-black-capitalized-yes/), we capitalize the B in Black whenever we refer to race and skin color. Many articles that we cite, however, follow other spelling rules, which we keep intact whenever we quote them.

investigate performance evaluations and find that "women perform better than men and whites better than blacks or Hispanics" in reports written by supervisors and management (p. 439). Nevertheless, well-known phenomena, such as glass ceilings (Pichler et al., 2008), undervaluation and wage inequality (Addison, Ozturk, & Wang, 2018), and lower hireability ratings or trait ratings (Hoover et al., 2019), are overall reported to affect women more than men. In such studies, women's struggles to advance their careers and achieve favorable ratings are made visible by juxtaposing their outcomes with those of their male colleagues. Here, the direct comparison between opposing groups helps to make visible the biases that, as in this instance, women have to contend with. Although there are discriminatory effects, these are clearly rooted in bias, as Hang-yue, Foley, and Loi (2006) stress: "While perceived gender discrimination is based mainly on an individual's own experience, perceived gender bias is an overall assessment of employment conditions and outcomes of personnel decisions for men and women in the workplace" (p. 986).

Unconscious biases also significantly inform HRM practices, which, in turn, often work against women (Truss, 1999). Auster (1989), for example, investigates the salary inequalities between men and women. The author argues that the gender wage gap is so pervasive because evaluators exhibit not necessarily unconscious bias against women but rather a *pro-male bias*, which subsequently influences performance appraisals and ultimately transfers this bias into salaries. A central theme here (which is mirrored in other studies as well) is the idea of gender roles and how far individuals' behaviors are in congruence (or in opposition) with such ascribed roles (Brutus, Montei, Jex, King, & King, 1993; John, 1991). Here, a woman often finds herself in a double-bind situation in which "she is damned if she does and damned if she does not" comply with the role (Sharma, 1983, p. 28). Compliance means that she is not deemed to be leadership material, but failing to meet such a role makes her seem abrasive, which means that either way, she is not living up to expectations (Sharma, 1983).

Another important research theme concerns race. Most often, the articles in this cluster consider the racial bias playing out between people with dark(er) and light(er) skin colors (Carton & Rosette, 2011; Martocchio & Whitener, 1992; Maxwell, 1994; Obenauer & Langer, 2019; Reynolds, Zhu, et al., 2020). This research focuses on the varying levels of social desirability of different skin colors, as well as subsequent segregation and racism. For example, some consider institutionalized bias in promotion processes to explain why White and Black employees can work identical jobs but receive different wages, in which White people earn more (Sundstrom, 1990). Uzogara (2019) find that "medium-skinned" Latinas (p. 1199) perceive elevated levels of discrimination than lighter-skinned Latinas. Rudman and McLean (2016) show the biased preference of US Americans for lighter skin tones, which the authors link back "to cultural messages that Whites are more aesthetically pleasing" (pp. 376–377). Ironically, statements such as this may betray authors' own biases, as pro-White attitudes, which are not at all unique to US Americans, transcend arguments around aesthetics and have a much more complicated entanglement, among many others, with systemic racism, colonialism, and social class. Similar tendencies can be observed when hiring models for fashion shows, in which Caucasian skin types are argued to be more aesthetic (Wissinger, 2011). This limits not only the career opportunities for Black models but also puts more pressure on their work modes, urging them to work harder, be more flexible, and even take care of their own make-up and hair styling, as the provided stylists often lack the right products and expertise to work with them (Wissinger, 2011). Unconscious biases favoring White skin are so pervasive that they have been taken on even by those that they discriminate against, as documented, for example, by Rudman and McLean (2016).

There is a smaller stream of research (Jost et al., 2009; March & Graham, 2015; Milkman et al., 2015; Rosette, Koval, Ma, & Livingston, 2016; Shih, 2006) that considers race together with other factors, most often gender. For example, some highlight the effects of both racist and sexist behaviors toward women of color and show that these women anticipate biased behavior (Chaney et al., 2020). Similarly, DiTomaso (2015) considers race and gender and shows how diversity training programs are executed from the point of view of a White majority that primarily considers bias against others, such as Black women, but fails to acknowledge the biases for (meaning the privilege of) White men. Some studies consider race together with weight (Finkelstein et al., 2007) or examine race and class (Ace, 1971; Gist-Mackey, 2018; Kornrich, 2009), all of which conclude that darker skin colors tend to correlate with experiencing some type of disadvantage while at the same time struggling to clarify exactly how overlaps with other categories might influence this. The study by Gist-Mackey (2018), one of the few pieces of ethnographic inquiry, analyzed job search communication training and found that the intersection of race and social class is tightly coupled, particularly in relation to unemployment. In the training sessions, Black working-class participants not only struggled to negotiate attending the training while simultaneously making ends need but also faced stigma from sounding "so Black" (Gist-Mackey, 2018, p. 1265) when they spoke. This was framed as negative and in need of correction by acquiring a more appropriate vocabulary.

Another research theme concerns bias in more broadly defined binaries, which is sometimes framed as in-group—out-group phenomena (Rubini, Moscatelli, & Palmonari, 2007; Sumpter, 2019). Some studies are more specific, for example, by referring to the biases between national residents and immigrants (Eller & Abrams, 2003; Ji, Tybur, & van Vugt, 2021), old and young people (Tam et al., 2006), hetero- and homosexual people (Dickter, Forestell, Gupta, & Blass, 2019), Koreans and Southeast Asians (Dickter et al., 2019), people from northern or southern UK (Crisp & Beck, 2005), able-bodied and disabled people (Stone & Sawatzki, 1980), or non-Muslims and Muslims (Steele, Rovenpor, Lickel, & Denson, 2019). March and Graham (2015) highlight that there can also be in-group bias among minoritized groups. The authors find that Hispanic women have an in-group bias because they prefer in-group women over White, non-Hispanic women. In relation to this, DiTomaso (2015) highlights how diversity training programs in corporate settings direct attention to the out-groups that experience negative effects from biases, but there is hardly any attention to the normative ingroup that benefits from such biases. Other studies have addressed biases between more loosely cut groups. Finkelstein et al. (2007) find that biases hinder overweight applicants in their job search and instead favor "average weight applicants" (p. 217). Others document a bias in developing countries in favor of international experience when it comes to senior-level and leadership positions, which the authors presume exists because of a "colonial mind-set bias" (Bano & Nadeem, 2018, p. 212).

Overall, we find that the literature on bias focuses heavily on binary categorizations, and it is between these that discrimination, stigmatization, and other inequalities arise. There is much less discussion of privilege and the groups that benefit from others'

experiences of discrimination from unconscious bias.

3.3.3. Bias in moments of decisions

A third stream theorizes unconscious bias as a workplace issue with a focus on decisions and immediate outcomes. In the reviewed literature, bias is often associated with decisions in the context of practices and processes related to HRM and employment, such as recruitment, promotions, and decisions of wage setting. Within these decisions, there is a strong focus on biased outcomes at specific points in time.

A broad body of literature focuses on biased recruitment decisions (Buijsrogge et al., 2016; Erlandsson, 2019; Glass & Fodor, 2018; Heilman, Martell, & Simon, 1988; Kmec, McDonald, & Trimble, 2010). For example, Brown-Iannuzzi et al. (2013) document how imagining an *ideal candidate*, as is practiced in many firms, leads decision-makers to imagine White employees and subsequently bias them against non-White applicants. A study on recruitment decisions (Martinez et al., 2016) shows that applicants with a history of cancer are stereotyped as being less competent; this stereotype results in actual discrimination toward individuals with a history of cancer, receiving fewer callbacks compared with applicants who did not report a history of cancer. Checchi, Cicognani, and Kulic (2019) observe selection committees for recruitment and promotion. The authors conclude that it is significantly more difficult for women to access, pursue, and progress in a career in academia. They further explain this gendered bias with the under-representation of women in selection committees, as well as a lack of access to informal and formal professional networks. Another study shows that an applicant's smoking habits can influence the outcome of job interviews, as interviewers report negative initial impressions of smokers, which results in their devaluation in hiring decisions (Roulin & Bhatnagar, 2020). Other studies have focused on the selection of employees for specific posts or programs. For instance, there are studies on the selection of candidates for becoming expatriates (Paik & Vance, 2002) or participating in labor market programs (Arai, Gartell, Rödin, & Özcan, 2020).

Promotion and other key moments of decision related to career development (Auster & Prasad, 2016; Sundstrom, 1990; Truss, 1999) have been examined. For example, Doldor, Wyatt, and Silvester (2019) analyze narrative developmental feedback to scrutinize gendered bias in feedback for leaders. The authors find differences in the performance feedback for men and women when it comes to strategic focus, political influence, confidence, agency, and communion. This results in women and men leaders being provided with different developmental roadmaps. Others illustrate how women are disadvantaged because of gender bias in the possibilities of becoming partners in professional services firms (Kumra & Vinnicombe, 2008). Kumra and Vinnicombe (2008) present the disadvantages women face because of a combination of firm- and society-based factors. The authors also identify the self-managed nature of the career development process and the need to fit into an existing masculine system as areas that disadvantage women.

Performance evaluations, for example, have been shown to be particularly prone to biases (Bernardin, Hennessey, & Peyrefitte, 1995; Top, 1991; Varma, Pichler, & Srinivas, 2005; Varma & Stroh, 2001). This goes back to research from the 1980s, which explicitly elaborates on pro-male bias in evaluation practices (Auster, 1989; Nieva & Gutek, 1980; Tsui & Gutek, 1984). More recently, research has shown how bias leads to associating serious entrepreneurship (Ahl & Marlow, 2012) and corporate leadership positions (Martell et al., 2012) with men. Cameron and Nadler (2013) describe how gender stereotypes give rise to biased judgments and decisions that ultimately impede women's career advancement. The authors highlight how perceptions of what women supposedly are like can clash with the attributes that are deemed important for performing well in the workplace, which creates friction. The authors further note that there are "shoulds" and "should nots" (Cameron & Nadler, 2013, p. 129) for women and that disapproval and punishment occur when these are actually violated or when a violation might be inferred. Others find that "embedded and hegemonic assumptions presume that deficit and lack rests within women who fail to assimilate and reproduce masculine norms" (Ahl & Marlow, 2012, p. 544). Such performance ratings are often translated into salary levels, in which men are subsequently favored over women (Drazin & Auster, 1987). That said, men can similarly experience punishment in their performance reviews when they violate gender expectations, for example, by crying in response to negative feedback (Botsford Morgan, Nelson, King, & Mancini, 2018). Importantly, there is evidence of in-group bias when it comes to gender. Women may experience biased judgments not only from men but also from other women. Stressing that such biases are widespread is important. Even in organizations in which meritocracy is a core value, men are still favored over their female peers and gain higher rewards even if their female peers outperform them (Castilla & Benard, 2015).

Wage setting is likewise a focus of outcomes from biased decisions at the workplace (Addison et al., 2018; Hultin & Szulkin, 1999; Maxwell, 1994; Steinberg, 1990). For instance, as Drazin and Auster (1987) point out, it may not be performance appraisals themselves but rather the process of translating performance ratings into salary in which biases favoring men over women become evident:

We found that there were no differences between the performance ratings of men and women at technical and managerial levels, despite there being a difference in salaries (at higher levels). One could therefore reach the conclusion that the process of performance appraisal is not the locus of bias in this organization. We found that the relationship between ratings and salary was greater for managerial level men than for managerial level women. Thus we can infer, tentatively at least, that something happens in the process of translating performance ratings into salary that favors men over women. (Drazin and Auster, 1987, p. 165)

A study of how body norms influence wage settings (Saporta & Halpern, 2002) found that overweight and thin male lawyers are paid less than normal-weight individuals.

Beyond individual HRM practices, gender bias also structures and organizes entire workplaces. For example, there are studies on general differences in callback rates from recruiters based on gender (Erlandsson, 2019) and outcomes of biased decisions traced through notably fewer women in leadership positions compared with men (Pichler et al., 2008). Beyond private firms, past research has focused on academia (King, 2008; Probert, 2005), particularly those workplaces within STEM research (Eaton, Saunders, Jacobson, & West, 2020; Hughes, Schilt, Gorman, & Bratter, 2017; Pietri et al., 2019). Here, gender biases manifest aplenty, for

example, in fewer citation rates, start-up support, or invitations to colloquia for women (Moss-Racusin, Sanzari, Caluori, & Rabasco, 2018). However, women researchers also struggle beyond STEM. Checchi et al. (2019) conclude that it is significantly more difficult for females, compared with their male counterparts, to access and persevere in a career in Italian academia. Although all these studies show how prevalent both gender bias and research on it are, there are also other types of binaries in which bias has been researched.

In sum, there is ample discussion of gender bias against women and minorities along career trajectories, but other factors also impact hiring and career advancement decisions, as well as wage setting. Overall, the literature shows that there is a strong focus on biased decisions and immediate impacts, rather than long-term consequences of such biased decisions. Next, we turn to how research understands bias as a fixable issue in workplace settings.

3.3.4. Bias as a fixable issue

A fourth stream of research theorizes unconscious bias as a *fixable* issue, researching and suggesting concrete measures for how this bias should be addressed. Here, a plethora of ideas are brought forth, mostly with the aims of improving decision-making, fostering collaboration, and avoiding lawsuits in the workplace (Allen, Sherman, & Klauer, 2010; Hughes et al., 2017; Kossek et al., 2017; Wilkins, Wellman, & Schad, 2017). These suggested methods can be meaningfully grouped according to who they target—individuals or organizations.

Aiming to change individuals' behaviors and perceptions, the literature tends to understand bias as something that people have a degree of agency over and/or the ability to change. This stream suggests that, given the right information or practicing the right behavior, individuals can reduce or even rid themselves of unconscious biases. Here, a number of approaches emphasize the efforts of those being discriminated against because of bias. Elsbach and Stigliani (2019) suggest that individuals should have contact with members of stigmatized groups as a way to overcome implicit biases. The authors further mention that it is an intrinsic motivation to be unprejudiced that reduces bias, not an extrinsic motivation. What is problematic with this suggestion, however, is that it would entail passing on the burden of eradicating bias in members from majority groups to stigmatized groups. Shih (2006) reports on how mostly White women use the strategy of job hopping to find "more egalitarian workplace cultures and bosses" (p. 185). Shih also details the careful scrutiny and evaluation of potential new workplaces that go into job hopping, which renders this strategy time consuming and demands a level of flexibility that not all can afford. As a less elaborate alternative, Bower (2019) suggests networking as a tool against discrimination and bias. Others suggest that individuals from groups that are prone to experiencing bias may benefit from providing more detail when introducing themselves in order to reduce sources of ambiguity relating to their legitimacy and credentials (Milkman et al., 2015). This is somewhat similar to King's (2008) suggestion that mothers address biases against them by clearly stating their desire for advancement and continued commitment to their work to ensure that their managers do not have false assumptions about them. Although such approaches may be effective, they again pass on the burden of mitigating bias and overcoming discrimination to those who experience such negative effects while ignoring those who are acting in biased and (potentially) discriminative ways.

Another way, then, is to ask those who hold unconscious biases to exert extra effort. For example, to address bias against mothers, Williams and Cuddy (2012) suggest creating awareness and training managers to discipline their speech acts, keep their personal opinions private, and be aware of labor laws. They call for managers to reach out to mothers and jointly identify paths forward instead of simply withholding opportunities for them. As a more formal measure, a group of papers calls for sensitivity trainings with professional actors (Demuijnck, 2009), raising awareness (Fruhen, Watkins, & Jones, 2015), reminding employees of their accountability and the real-life consequences that their decisions invoke (Koch et al., 2015), or providing both actionable and challenging feedback to support women in entering senior leadership roles (Doldor et al., 2019).

Studies suggesting measures aimed at organizations similarly recommend a number of interventions. Sidhu, Feng, Volberda, and Van Den Bosch (2020) investigate gender diversity on corporate leadership boards. The authors call for both numerical and positional goals, which they see "as complementary instruments – either in the form of voluntary target-setting or comply-or-explain regulatory codes" (Sidhu et al., 2020, p. 15). These goals are argued to strengthen gender equality and create a more effective board. Investigating biased investment decisions by venture capital firms, Hernandez, Raveendhran, Weingarten, and Barnett (2019) recommend the use of data-driven approaches, such as algorithms, artificial intelligence, and predictive analytics. Nevertheless, the authors emphasize that decision-makers should retain some control over the decision process so that they can address algorithmic bias against minority founders, including women. Similarly, in support of women employees, Elsesser and Lever (2011) suggest "feminizing" the management role because of the preference for "sensitive over direct managers, regardless of the managers' gender" (p. 1575). The authors argue that if the characteristics of an *ideal* manager become more communal, aligning such management positions with the female gender role and female leaders receiving greater acceptance in the firm will be easier. Williams and Cuddy (2012) are similarly concerned with gender roles, particularly in combination with motherhood, and they call for organizations to consider and emphasize that fathers, too, might have private commitments to tend to, not just mothers.

Others suggest *respectful leadership*, which entails social skills and awareness, as well as respectful communication by means of a question-asking style, to overcome the challenges affecting female leaders in a negative way (van Gils et al., 2018). For this leadership style to gain traction, leadership training is a common suggestion, which we sometimes find to be coupled with the call for broader organizational policies. For example, Derous et al. (2016) call for antidiscrimination policies and diversity training to improve the interview process for stigmatized job applicants. More broadly, Derous and Ryan (2019) call for developing policies and procedures to record the discriminatory screening practices of candidates. In sum, although some authors point out that tackling unconscious bias should be an effort for the organization and be met with changes in different organizational processes, we find that most of the emphasis in the literature has so far been on individual training.

Overall, our mapping of the unconscious bias literature shows a strong focus on biased individuals, in which bias is overwhelmingly investigated as playing out in clear-cut binaries, most often between men and women and between people of lighter and darker skin

colors. We also found that unconscious bias is an integral part of workplaces and HRM practices of all kinds. As bias is often defined as a human error or a faulty way of thinking (as outlined in Section 3.2.3), we are not surprised to find research that presents unconscious bias as an issue that can be addressed and *fixed*. To tend to the different assumptions underlying such thought, we next present and explain the need for a critical-reflexive research agenda.

4. A critical-reflexive research agenda for unconscious bias

The findings presented above show that current research on unconscious bias rarely defines the phenomenon, and the few studies that do, do so in markedly different ways. At the same time, what HRM scholars thus far theorize and research under the term 'unconscious bias' differs across a range of dimensions, and the lacking awareness thereof can well be considered an obstacle to generalizing research results and further develop this field of study. This heterogeneity is hardly a surprise, given the breadth and richness of the HRM field, and we would be remiss trying to do away with it. Instead, what we wish to address is the so far unreflected treatment of this issue. In this section, we therefore outline a critical-reflexive research agenda informed by the findings detailed above.

Our suggested agenda is both critical (Chia & Morgan, 1996; Mingers, 2000) in that we problematize the status quo in order to generate new insights and reflexive (Clegg & Hardy, 1996; Mikkelsen & Clegg, 2019) in that we seek to enhance current thought with alterative perspectives and vocabularies to open up new research avenues. Both stances meaningfully complement each other, while being aligned on three core ideas: Both seek to uncover tacit or taken-for-granted assumptions, both are interested in tensions and disaccords that arise from such assumptions and both aim to harness such disaccords in order to advance current thought.

A critical-reflexive approach here means three things: 1) to interrogate the different arguments and assumptions about unconscious bias, 2) to identify tensions and disaccords surrounding such arguments and assumptions, and 3) to draw out analytical distinctions and provide avenues for forging new connections (Tsoukas, 2017) between multiple ways of theorizing unconscious bias. Firstly, we seek to challenge the tacit assumption that we all simply know what unconscious bias is by interrogating the different theorizations and arguments around this term. Second, we show how there are currently disaccords in how arguments on unconscious bias are brought forth. Third, we draw out analytical distinctions between the different ways of theorizing unconscious bias and provide avenues for further research to help forging new connections. Adding to this third point, our critical-reflexive approach has us interested in opening up new lines of investigating and converging previously-thought separate theorizations (Mikkelsen & Clegg, 2019; Tsoukas, 2017). Therefore, we also take into account work on intersectionality, which is rooted in Black feminist research, as outlined by Crenshaw (1989) and others (Holvino, 2010; Luthra, 2021; Maroto et al., 2019), who urge researchers to reject fast and easy explanations that center binary thinking and instead to emphasize looking at simultaneous effects of intertwined categories. With this point of departure, we detail novel ways of conducting unconscious bias research by directing our attention to (1) processes and structures, (2) intersections of different unconscious biases, (3) long-term consequences and (4) the maintenance of systems of inequality.

4.1. Toward unconscious bias in processes and structures

The mapping of bias research regarding who or what is biased showed that most operationalizations of unconscious bias place the phenomenon around human attitudes and interactions. Consequently, most arguments brought forth focus on individuals and their decision-making. Although we do recognize that there is a stream of research around bias within and between groups of people (to which we will turn in the next section), we are critical of the tendency for research to emphasize decision-makers, typically managers, as the main locus of unconscious bias. For example, some studies suggest that alerting managers of their biases could help them to reflect on the potential impact this may have on employees (Fruhen et al., 2015). This would imply that awareness on its own is an acceptable way to reduce bias (cf. Miles & Sadler-Smith, 2014). Such a view is not new but stands in tension to other work, which has time and again shown the opposite. For example, Gregory and Kleiner (1991) state that "the barriers against women are most likely to crumble towards the end of the 1990s due to the demographic shift [...] (w)ith White males becoming the new minority in the workplace, [...] it will no longer be possible for women to be excluded from upper corporate levels" (p. 4). However, as can be seen from current figures on women in leadership⁷ and a plethora of academic studies, this prediction did not become a reality. Other studies recognize that mere awareness of unconscious bias, for example coming from sensitivity trainings (Noon, 2018), is unlikely to improve diversity outcomes without addressing how the bias translates into action across specific organizational processes (Doldor et al., 2019).

Furthermore, our findings point to a tendency to place the responsibility of addressing unconscious biases on those who are affected by them, typically members of minority groups. For instance, some researchers suggest that discriminated individuals provide more detail when introducing themselves to intentionally reduce any sources of ambiguity about their legitimacy and credentials (Milkman et al., 2015). Others show that even if discriminated individuals seek to address the biases they face by trying to assimilate to the dominant group, they may nevertheless experience oppression for diverging from the social scripts associated with their bodies. This can be seen, for example, in discussions around the double bind (Corrington & Hebl, 2018; Sharma, 1983). Similarly, Peterson and Philpot (2007) examine women's roles in Fortune 500 boards and identify gendered barriers. However, at the end of the paper, the authors also point to the talent pipeline, suggesting that bottom-up pressures in the talent pipeline will solve gender biases in recruitment processes around the year 2010. While time has proven this to be wrong, such an argument again subtly defers responsibility away from organizations and selection committees and towards those who are already disadvantaged from their minority

⁷ This is detailed, for example, in the following report: https://www.cranfield.ac.uk/som/research-centres/gender-leadership-and-inclusion-centre/female-ftse-board-report

position.

We therefore propose a critical-reflexive stance towards this way of framing unconscious bias. Focusing chiefly on decision-makers overlooks how unconscious bias is imprinted also in organizational structures, processes and cultures. Instead, it steers many implication and conclusion sections toward a direction in which individuals suffering from discriminatory treatments are also implied to have—in whole or in part—a degree of agency over what is happening to them. But this may not always be the case. A way to address this is to consider how unconscious biases also unfold beyond the individual level, for example in organizational processes and structures and how changing those might affect both biased decision-makers and the outcomes they create. A greater sensibility to power and domination can impact the usefulness and practical applicability of future research, particularly when it touches on sensitive topics, such as harassment and other misconduct. Yet another way of addressing unconscious bias is in organizational cultures. Recent work on the topic (Ottsen & Muhr, 2021; Williams, 2021) shows how diverse workplaces create organizational cultures that counter the adverse effects of unconscious biases. Key here is that companies do not hire for an exclusionary or narrowly defined 'cultural fit', for example with 'masculinity contest cultures' (Williams, 2021), as this would further strengthen the existing, biased culture. Instead, hiring diverse applicants counters groupthink and interrupts biases, making workplace cultures an important element for researchers to focus on (Ottsen & Muhr, 2021).

4.2. Toward an intersectional approach to unconscious bias

Beyond a focus on individuals, we further identified a tendency in the literature to consider unconscious bias between more or less clear-cut and homogenous social groups but not where such groups may overlap and/or intersect. Extant research often groups people in binary ways, such as woman/man (Brands & Kilduff, 2014; Kmec et al., 2010; Paris & Decker, 2012), Black/White skin color (Stauffer & Buckley, 2005), overweight/normal weight (Pingitore et al., 1994), disabled/abled (Stone & Sawatzki, 1980), or likeable/unlikeable (Arkkelin & Connor, 1992). We agree that such categories are relevant to consider, not least because much research is quantitative and/or uses experiments, which demands such well-established and clear forms of categories. Although such research has yielded many meaningful insights, relying solely on such clear categories neglects the messy realities and nuances of how unconscious biases play out for individuals who pertain to more than one of those groups. Life exists along many different continua, so individual characteristics, such as gender, race, and disability, are not as clear-cut as the majority of current unconscious bias research would currently suggest.

Suggesting a critical-reflexive agenda, we therefore propose paying more attention to the fluidity within and the entanglement across different categories that can trigger unconscious bias. Firstly, we argue that the current approach of categorizing human beings can be critically re-thought to generate new insights. For example, we found no articles that explicitly addressed non-binary, gender-nonconforming or queer identities. Reducing the world's population to the gender binary neglects large populations, ignores much societal, cultural and historical nuance and richness and effectively blocks HRM research to inclusively consider all the humans that it seeks to capture with its capitalized "H". As a consequence, there is also little guidance for managers and workplaces in how they can include, accommodate, and embrace diversity from, for example, trans, non-binary, or otherwise gender non-conforming people. Arguably, such fluidity is difficult to capture in surveys and experiments, but there are other ways to approach it, and trying them out is worthwhile (for further discussion, see Humbert & Guenther, 2021). Moreover, using qualitative, participative, and long-term approaches brings further valuable avenues to capture and investigate the nuance and richness within, as well as on the margins of, one (or more) of such group categories.

Second, much research characterizes unconscious bias as something that is contained within clear-cut groups, for example, by referring to and highlighting an in-group/out-group binary (DiTomaso, 2015; Guerra et al., 2010; MacInnis & Hodson, 2013; Petersen, Dietz, & Frey, 2004). From this perspective, unconscious bias strengthens in-group coherence, and in-group favoritism (Lauring & Selmer, 2009; Smith et al., 2001) helps to delineate differences from everyone else. Most of the studies reviewed emphasize one deliberately different *out-group* (Kim & Na, 2020; Simon & Gutsell, 2020). For more critical and reflexive research, we suggest adopting an intersectional approach. Considering that no social group is homogeneous, issues such as race—being White, Black, Indigenous, or a person of Color—class, gender, and different aspects of physical, cognitive, or mental disability are always present (Crenshaw, 1989; Holvino, 2010; Maroto et al., 2019); these can create patterns of simultaneous inequality and privilege (Rodriguez & Ridgway, 2019). A small but growing stream of research is beginning to address this, for instance, by discussing racialized and gendered biases against Black women (DiTomaso, 2015; Popan, Kenworthy, Barden, & Griffiths, 2010; Rosette et al., 2016). The findings emanating from such research have only just begun to shed light on the richness and relevance of intersectional experiences for HRM research.

In light of this richness, the ways in which some existing studies have gone about investigating unconscious bias strikes us as simplified and binary, for example, regarding studies on participants' tendencies to shoot/not shoot at computer-simulated humans (Kahn & Davies, 2011; Kenworthy, Barden, Diamond, & del Carmen, 2011; Schofield, Unkelbach, & Denson, 2017). To be clear, we do not intend to renounce neither the merits of such approaches nor their resulting findings. Instead, we wish to argue that bias in human relations often manifests also in much subtler and nuanced ways that escape simplified shoot/do not shoot or hire/do not hire situations. These, for now, remain largely under-researched and comprise a fertile topic for future inquiries.

4.3. Toward longer-term consequences and manifestations

Our review further revealed a focus on (biased) decision outcomes at very specific points in time as well as the micro processes around how decisions come to be. For instance, many of the reviewed studies investigated hiring decisions with regard to the application or interview setup, promotion decisions based on evaluation criteria, or wage setting in terms of the preceding wage

negotiations (Bragger et al., 2002; Heilman & Okimoto, 2008; Hoover et al., 2019; Segrest Purkiss, Perrewé, Gillespie, Mayes, & Ferris, 2006). Again, while having its clear merits, there is a paucity of inquiry that considers more holistically also the processes that lead up to specific biased outcomes. The assumption underlying much of current research seems to be that the phenomenon of unconscious bias can be isolated to specific points in time. In turn, broader albeit important topics, such as around work culture and norms, institutionalization, workplace structures and processes, or power struggles resulting from hierarchical structures are less explored. The idea that bias plays out in the moment of a decision leaves out the implications of environments and long-term consequences.

Suggesting a critical-reflexive agenda, we therefore propose examining unconscious bias also from a more processual stance, considering long-term perspectives, for example by focusing on its institutionalization. Already thirty years ago, Sundstrom (1990) highlighted the importance of considering the history of how unconscious bias plays out. The author shows how the labor markets in the Southern United States have institutionalized unconscious biases regarding promotion and wage, stemming from past times when people of color were exclusively hired for middle-level occupations and without options for promotions. Similarly, Skalli (2011) elaborates on gender bias imprinted in the distribution of political powers in Moroccan media by investigating the gendered way in which leadership is constructed and represented in news reports. In so doing, this paper highlights the institutionalization of gender bias, which cannot simply be changed by adding more women to the equation through quotas, as this would not "guarantee for the recognition of gender equality in the cultural sphere of knowledge production and opinion formation" (p. 475). Such research findings illustrate the importance of examining bias beyond isolated points in times, which helps to create a more foundational understanding of the source of unconscious biases and ways to address them.

4.4. Toward unconscious bias as maintaining systems of inequality

As a last point, our review revealed that most literature brings forth the argument that unconscious bias is a fixable issue, framing such fixes as a way to improve organizational efficiency, decision-making, and collaborations (Allen et al., 2010; Hughes et al., 2017; Kossek et al., 2017; Wilkins, Wellman, & Schad, 2017). For example, Doldor et al. (2019) call for providing more actionable and challenging feedback to support women in "developing the skills required for senior leadership" (p. 18). Suggesting that women change themselves in order to become more similar to those already in senior leadership assumes that eradicating differences eradicates unconscious bias – and pressures minorities to assimilate. Moreover, it places responsibility for failure or success on those being discriminated against. This indicates a taken-for-granted assumption that unconscious bias is something that can be "solved" as well as tendencies to place the responsibility for such "solutions" on the marginalized. This, as we observe, tends to isolate the phenomenon of unconscious bias to instances where it hurts organizational goals such as productivity.

Suggesting a critical-reflexive agenda, we therefore propose that research also conceptualizes and investigates unconscious bias as a source and means of reproducing and maintaining entire systems of inequality. Although we acknowledge the chicken–egg relationship between unconscious bias and discriminatory outcomes, we argue that treating the *eradication* of unconscious bias as a main path to improve the interactions between people leads to a never-ending circle of *fixing* ever new occurring versions and forms of unconscious bias because the systems that create unconscious bias in the first place remain intact. Much of what the literature tends to suggest in order to solve the issue of unconscious bias ignores structural and societal problems and the ways in which such fixes might be problematic for non-majority groups. For example, more recent findings point to the fact that unconscious bias training may not always lead to the deeply-rooted transformations that many tend to associate with these kinds of interventions (Anderson, O'Hagan, & Thomson, 2019). People undergo this training often because of extrinsic motivations, for example, because doing so grants them legitimacy and access to funding and power (Hofmans, Dries, & Pepermans, 2008). That said, we do see a few studies that address solving bias on a more societal level. Noteworthy, for example, is the study by McKay (2007), which advocates for the policy of a basic citizen's income. Although the general feasibility of such income is certainly debatable and dependent on many factors, such a solution would target many groups simultaneously and has a profound societal impact at leveling the playing field beyond the men and women workers considered specifically in this article.

All in all, we conclude that investigating unconscious bias from a critical-reflexive stance, considering processes and structures, intersectionality, long-term consequences and how unconscious bias reproduces and maintains systemized inequality should shed new light on the question of why bias trainings and other 'fixes' so often fail and how organizations may achieve more sustainable change instead.

5. Discussion and conclusion

This review of the bias literature was guided by the goal of learning about how unconscious bias is understood and investigated and how findings are interpreted and communicated in the extant HRM literature. We adopted a critical-reflexive stance (Clegg & Hardy, 1996; Mikkelsen & Clegg, 2019; Mingers, 2000), which helped us to remain skeptical of the ways in which different categorizations are made and to question how the consequences of unconscious bias can overlap, hence affecting certain groups more and differently than others (Crenshaw, 1989; Luthra, 2021; Maroto et al., 2019).

We agree with Weick (1995) in that no theory can ever be all, accurate, simple and general. While it cannot provide a new 'grand theory' of unconscious bias, a literature review such as ours can meaningfully contribute to the extant literature by (1) showing patterns in existing theory, (2) exposing commonly held assumptions and reflecting on how useful such assumptions are and (3) suggesting points on how to move beyond such assumptions (cf. Makadok et al., 2018). We explain these contributions next.

Firstly, we show patterns in existing theory with our mapping of the literature, outlining how current research treats unconscious bias in HRM and making clear the inconsistency in the ways in which research talks about unconscious bias. We showed how terms

such as "unconscious bias" and "implicit bias" are often entangled and how these conceptualizations are conflated with other terms, such as "stereotype" "prejudice" and "stigma". We showed the levels (individual, group, and societal/systemic) at which unconscious bias is conceptualized to occur and how research often takes a normative stance on the matter, framing unconscious bias as an error in cognition or as a failure in making decisions.

Second, we used the identified patterns to define four focal research themes, namely biased individuals, bias as binary, bias in decision-making and bias as a fixable issue. We next directed a critical-reflexive gaze onto these focal themes and from them exposed common but largely unarticulated assumptions that the HRM domain holds regarding unconscious bias, and we reflected on the usefulness of such assumptions by proposing a critical-reflexive research agenda. As part of this agenda, we suggest a move towards also considering unconscious bias as embedded in processes and structures, towards considering intersectional unconscious bias, towards investigating longer-term consequences and manifestations of unconscious bias and towards considerations on how unconscious bias maintains systems of inequality. By introducing and outlining a critical-reflexive stance towards how the phenomenon of unconscious bias has so far been researched, we hope to inspire discussions that transcend the level of analysis of different individual research streams and therefore allow for future findings across streams to be compared and contrasted (Makadok et al., 2018). Therefore, we do not wish to frame our contributions as "fixes" or "one-size-fits-all solutions" to the many diverse understandings of unconscious bias in the HRM domain. Instead, we seek to encourage new debates and open for more critical-reflexive investigations on the matter

Our third contribution entails reflections on how the HRM domain might move beyond its commonly held assumptions on unconscious bias. We turn to this in the next section.

5.1. Avenues for future research

Taking our critical-reflexive research agenda as point of departure, we now present four concrete avenues for future research on unconscious bias for HRM scholars. Common across all avenues is a shift toward more consistent and nuanced ways of investigating and addressing unconscious bias.

The first avenue for research entails moving from asking "Who is biased?" towards "What is biased?", and so shifting attention from individuals to processes and structures. Our review revealed a strong tendency to operationalize unconscious bias in terms of gendered and racialized discriminatory actions and attitudes, which has shed much light on how the phenomenon plays out between people pertaining to different groups, which are often framed in terms of pertaining to a minority and majority. There sometimes is a tendency of trying to eradicate unconscious bias by doing away with differences among individuals through assimilation pressure. We argue that there is a merit in also considering structures and processes, how to improve them and to adjust them to accommodate, not punish such difference. We therefore suggest that bias researchers seek more contextualization of the issue at hand instead of focusing only on the individuals involved in order to meaningfully address bias in processes and structures. Individualizing problems and focusing on biased individuals exclusively shifts attention away from how unconscious bias constitutes and is constituent of discriminating structures and processes. To address unconscious bias in processes, it is helpful to look outside of laboratories and standardized surveys. We encourage researchers to undertake more qualitative studies, collect observations, conduct in-depth interviews, and identify respondents via snowballing, if possible, also outside of laboratories, in different working contexts.

The second avenue for future research entails asking different "How?" questions, moving from binary conceptualizations to how unconscious bias affects people *intersectionally*, meaning in the entanglement of various social categories. In this paper, we have pointed out how bias can manifest in much subtler ways that escape the established binaries, for example, between Black and White, or between man and woman. We therefore suggest that future research moves away from binary, clear-cut groups and instead embraces more nuanced and intersectional perspectives (cf. Crenshaw, 1989) in which bias manifests and is experienced. Our systematic review of the HRM literature shows how such an intersectional thought would meaningfully enhance and advance this stream of literature. We further encourage researchers to not simply write *about* different minority groups but to actively seek council *with* and co-authorship *from* such groups.

A third avenue entails asking different "When?" questions, hence moving from emphasizing short-term decision-making to focusing on the history as well the long-term consequences of unconscious bias. Here, the critical-reflexive agenda outlined above shows the need to consider unconscious bias within longer timeframes, beyond the situational decision-making so overwhelmingly considered in the studies we reviewed. We suggest that this could be achieved by focusing on longer time frames, considering more broadly how bias manifests within organizations as well as their history. This transcends the so-far dominant focus on bias within isolated processes of decision-making.

A fourth avenue entails asking different "Why?" questions, and so moving from framing unconscious bias as a fixable issue to considering the root causes. We suggest considering bias not as a problem of discrimination that can be addressed and fixed per se. Rather, we encourage future research to understand unconscious bias as embedded in broader systems, institutional logics, and societal understandings. Consequently, considering inequality regimes, including the mechanisms of capitalism, white supremacy, or patriarchy, becomes important. Systems such as these require more attention if we wish to shed more light on and learn about unconscious bias in HRM. To address the issue of systemic and institutionalized unconscious biases, we propose to combine suggestions made for the other research avenues, namely, conducting qualitative studies, considering longer time frames, engaging with critical and Black feminist theories, and collaborating with researchers and activists from minoritized groups to emphasize and build upon the knowledge that has already been established in other domains.

5.2. Practical implications

As this review has made very clear, bias cannot be eliminated. Bias is a result of expedient and efficient decision-making, and human beings rely on bias in their decision-making when they are stressed or pressed. This means that managers and employees alike, without any doubt, will rely on biased decision-making in work decisions (cf. Kahneman, 2017). Thus, a thorough review of the various biases at play will not make practitioners less biased. In fact, this belief will only likely strengthen the negative impact of bias on decision-making (Williams, 2021). However, we argue that a more thorough understanding of the types of biases and how they influence various levels of decision-making will equip managers (and their employees) better to identify which parts of their decision-making are likely to be influenced negatively by bias and thus attempt to interrupt and block these (cf. Muhr, 2019; Williams & Mihaylo, 2019). As such, the above four areas of future research will also have direct practical implications. We explain each in the following.

First, practitioners need to concentrate on how they can move from focusing on individuals to focusing on processes and practices. As unconscious biases cannot be eliminated with bias awareness training (Dobbin and Kaley, 2016; 2018), the task is not necessarily to change individual mindsets but rather to address individual practices and, as we also pointed out in this review, organizational processes. Therefore, tasking individual employees with addressing such biases would be misguided. It may be more fruitful to frame this as an organizational responsibility and to design processes and practices in a way that interrupts and blocks individual biases. This approach ideally aims at three levels: (1) leadership, (2) the collective, and (3) processes. At the leadership level, a leader has not only to accept the fact that they have their own biases but also understand that many of these are triggered automatically and outside of their conscious control. This means that any leader needs to learn how to outsmart their own brains (Soll, Milkman, & Payne, 2015) and ensure that, for example, meetings are structured in a way that minimizes bias. This can often be achieved with reasonably small changes, which entail, among others, ensuring that everyone is heard, changing the order in which people speak, or writing ideas down on paper to read them out loud afterward. Even such small changes can effectively make other voices heard beyond the usual contributors. It can also help detach ideas and opinions from bodies and, in this way, create the freedom to express new or different ideas. On the level of the collective, training colleagues collectively in active allyship can be worthwhile (Luthra, 2021). All too often, biases are sustained in organizations because of a large silent group of bystanders. Here, it can feel overwhelming or even impossible for individuals to speak up for fear of repercussions or because of a strong cultural pressure not to ruin the social atmosphere. Collective action is therefore necessary to break unconsciously biased behavioral patterns. Finally, processes can be changed through reforms in how organizational processes are usually handled. This is most obvious in selection-, recruitment-, evaluation-, and retention processes, in which small changes in the way things are done can have considerable effects. This is not limited to, but could include searching for candidates in new places, identifying specific complementary competences that add to rather than just fitting into the existing culture, anonymization of candidate profiles in the selection process, the use of software to eliminate bias in written material, or initiatives to avoid group bias, such as dividing interviews into one-on-one sessions, as well as implementing tie-break quotas, which ensure that an underrepresented candidate is chosen when there are several qualified candidates. All of these have proven extremely effective to block and interrupt bias and thereby obtain a more diverse workforce (Bohnet, 2016; Morse, 2016; Muhr, 2019; Ottsen & Muhr, 2021; Williams, 2014). The key to such practical advice, however, is to realize that unconscious biases cannot be removed from the individual and their decision-making. Unconscious bias must be addressed collectively and through a re-design of organizational processes (cf. Williams, 2021).

Second, how can practitioners move toward a more intersectional approach to interrupting bias? Here, it is important to combine bias interrupters with norm-critical methods (cf. Christensen et al., 2021) that activate emotions and affect. As much of the research reviewed above shows, recognizing bias for what it is remains difficult if one does not experience it personally. An important first step here is for practitioners to not talk *about* any minority but rather to talk *with* them, acknowledging that different people have access to different privileges and that everyone's brains, by default, make biased shortcuts to process information more efficiently. There are many ways to do this (see, for example, the website of the global nonprofit initiative www.inclusion-nudges.org), but one common aspect is that change often does not happen until it is felt and acknowledged as important. Therefore, we encourage practitioners to prioritize the continuous testing of practical interventions and, in so doing, create a knowledge base of the interventions that work for their workplaces. The reviewed literature makes it clear that it is not enough to understand unconscious bias on a rational level because this will mostly be activated by an individual's own experiences, which comes at the cost of being open to the experiences of others. If unconscious bias within intersections is to be understood outside one's own sphere of experience, the bias needs to be personally felt.

Third, how can practitioners move from short- to long-term approaches while still keeping solutions and change efforts central? Often, short-term initiatives to address unconscious biases are concrete, whereas long-term challenges, such as addressing and changing an exclusive culture, remain somewhat elusive and abstract. Consequently, long-term cultural challenges are discussed and reflected upon, but there is a lack of concrete action to follow up on this. To this end, our review has shown the importance of working toward defining and communicating concrete actions when dealing with long-term issues. If no concrete and clearly defined measures are put into place, the same issue will arise time and again, with no improvement. A case in point is the pipeline argument for more diverse hiring practices, which we have unpacked above. Instead, we conclude that a combination of concrete actions and solutions as outlined above are likely most effectively combined with affective and norm-critical exercises, as suggested by recent research (Guschke & Christensen, 2021).

Fourth, if biases cannot be eliminated, leaders and other employees alike need to learn to work with biases on a continuous basis. The most important insight from our review is to avoid thinking that biases have been fixed once and for all and that evaluating another person and making decisions without ever being biased again are now possible. Doing so might risk achieving the opposite—enhancing and strengthening bias (Dobbin & Kalev, 2016). Instead, it is important to highlight that bias training is a continuous process requiring

reflexive confrontation of our own mental frames that help us in jumping to conclusions (cf. Williams, 2021). Leading through bias is a reflexive, continuous practice. As a concrete example, we can mention the blinding of CVs, which only creates a long-term effect if the potential surprises about who was *hidden* behind a CV or other realizations in the process are used to gain greater awareness of one's own biases.

5.3. Limitations

As with any research, there are limitations to our article. First, our selection of journals places a limit on the scope of this review. Sixty-five journals listed under the themes of HRM and MOS in the ABS/AJG journal ranking list were included here, but other journals, such as those not listed under this theme, were excluded, regardless of whether they published HRM research or not. Therefore, we encourage those wishing to expand our review to consider other data sources, such as the *Journal of International Business Studies* and the *Journal of World Business*.

Second, HRM encompasses a wide domain of many relevant subfields. Consequently, our aim to provide a comprehensive, accurate, and usable overview of unconscious bias comes with the challenge of aggregating and compressing ongoing and nuanced discussions. Future research may thus benefit from investigating unconscious bias in other subfields, possibly paying attention to the way in which arguments have unfolded temporally in different communities, which we pragmatically opted to leave out in an effort to avoid confusion in our approach to coding the literature.

Third, the scope of this study excluded all research beyond the HRM domain and the chosen timeframe. We hope that similar investigations, for example, in business ethics, critical management studies, or more extensively within MOS, and with other time spans considered will add further comparisons and discussions of unconscious bias in broader terms.

Data availability

No empirical data was used for the research described in the article.

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