MIT Open Access Articles

Beyond binary group categorization: towards a dynamic view of human groups

The MIT Faculty has made this article openly available. ***Please share*** how this access benefits you. Your story matters.

Citation: Kish Bar-On, K. (2026). Beyond binary group categorization: towards a dynamic view of human groups. Philosophical Psychology, 39(2), 345–372.

As Published: https://doi.org/10.1080/09515089.2024.2398622

Publisher: Taylor & Francis

Persistent URL: https://hdl.handle.net/1721.1/164727

Version: Final published version: final published article, as it appeared in a journal, conference proceedings, or other formally published context

Terms of use: Creative Commons Attribution

Massachusetts Institute of Technology

Philosophical Psychology

ISSN: 0951-5089 (Print) 1465-394X (Online) Journal homepage: www.tandfonline.com/journals/cphp20

Beyond binary group categorization: towards a dynamic view of human groups

Kati Kish Bar-On

To cite this article: Kati Kish Bar-On (2026) Beyond binary group categorization: towards a dynamic view of human groups, Philosophical Psychology, 39:2, 345-372, DOI: 10.1080/09515089.2024.2398622

To link to this article: https://doi.org/10.1080/09515089.2024.2398622

© 2024 The Author(s). Published by Informa UK Limited, trading as Taylor & Francis Group.

Published online: 01 Sep 2024.

Submit your article to this journal

Article views: 2133

View related articles

View Crossmark data

Citing articles: 1 View citing articles

Full Terms & Conditions of access and use can be found at
https://www.tandfonline.com/action/journalInformation?journalCode=cphp20

PHILOSOPHICAL PSYCHOLOGY
2026, VOL. 39, NO. 2, 345–372
https://doi.org/10.1080/09515089.2024.2398622

Beyond binary group categorization: towards a dynamic view of human groups

Kati Kish Bar-On

The Science, Technology, and Society program, Massachusetts Institute of Technology, Cambridge, MA, USA

ABSTRACT
Society is a composite of interacting people and groups. These groups play a significant role in maintaining social status, establishing group identity and social identity, and enforcing norms. As such, groups are essential for understanding human behavior. Nevertheless, the study of groups in everyday group life yields many diverse and sometimes contradicting theories of group behavior, and researchers tend to agree that we have yet to understand the emergence of groups out of aggregates of individuals. The current paper aims to shed new light on the convoluted interrelation between groups and individuals by focusing on individuals' social identities and group categorization. It does so by exploring the dynamic nature of the self and its implications on identity and group membership, and introducing a framework recognizing the fluidity of groups and group categorization. Incorporating historical insights with contemporary theories, this paper argues for a flexible understanding of group dynamics that surpasses rigid in-group and out-group classifications, proposing instead that group affiliations exist along a continuum that reflects the ever-changing social landscape.

ARTICLE HISTORY
Received 13 May 2024
Accepted 23 August 2024

KEYWORDS
Group categorization; social identity; intergroup relations; dynamic identities; group membership; dynamic social ontology

1. Introduction

Humans are inherently social beings who identify with various social groups. These affiliations significantly shape their self-concept and affect their social interactions (Slotter et al., 2015; J. C. Turner & Onorato, 1999). Understanding the reciprocal influence between individuals and their groups is critical for scholarly inquiry across disciplines as well as for comprehending the mechanisms of social progress, the formation of societies, and the advancement of humankind. Yet, a thorough and detailed understanding of what human groups are remains elusive amidst an

CONTACT Kati Kish Bar-On katik@mit.edu The Science, Technology, and Society Program, Massachusetts Institute of Technology, Building E51-163, 77 Massachusetts Avenue, Cambridge, MA 02139, USA

© 2024 The Author(s). Published by Informa UK Limited, trading as Taylor & Francis Group.
This is an Open Access article distributed under the terms of the Creative Commons Attribution License (http://creativecommons.org/licenses/by/4.0/), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited. The terms on which this article has been published allow the posting of the Accepted Manuscript in a repository by the author(s) or with their consent.

expanding body of interdisciplinary research on group membership and intergroup dynamics.

Anthropological research has categorized groups into several types, including support cliques, sympathy groups, bands, cognitive groups, tribes, and linguistic groups (Binford, 2001; Kottak, 2007; Steward, 1972). Some anthropologists posit that the hierarchical structure of our societies is a reflection of human psychological predispositions (Fuchs et al., 2014). Sociologists typically view a group as individuals united by shared traits, interactions, expectations, obligations, and a shared sense of identity. Social psychologists take this further, characterizing a group as a social entity where multiple individuals interact, driven by shared aspirations, hierarchies, roles, norms, values, and subject to repercussions if norms are breached (M. Sherif, 1954a; M. Sherif & Sherif, 1953). Economic experiments often treat groups as small, homogeneous, and static units based on the assumption that such models accurately represent the origins of human groups (Carpenter, 2007; Goeree et al., 2002; Nosenzo et al., 2015). Conversely, philosophers argue for a representation of human groups as larger and more complex, transitioning from insular social bands to expansive, multi-layered social networks much earlier in history than traditionally assumed (K. Kish Bar-On & Lamm, 2024; Layton & O'Hara, 2010; Sterelny, 2021; Stiner, 2002).

The variety of perspectives indicates that the concept of a "group" is complex and intertwined with other concepts, such as group membership, social identity, norms, social hierarchy, identity salience, cooperation, stereotypes, and self-concept. To better comprehend the nature of human groups, this paper proposes an examination of the dynamic interplay among the elements that influence group behavior. Rather than seeking a universal, comprehensive, and fixed definition of human groups, it advocates that groups be regarded as dynamic constructs shaped by the interplay of individual identities and group memberships.

It has been argued that something has gone wrong with theories in social science, and it is partially because we have a poor understanding of the emergence of group properties out of aggregates of individuals (Epstein, 2015). According to philosopher Brian Epstein, understanding group actions and intentions requires considering facts about nonmembers as well as facts about group members. This approach recognizes that group membership and classification are not static elements; instead, they constantly change based on shifts in social identity and social context. Grasping the dynamic nature of these cognitive processes, along with their interactions with evolving social identities, is therefore essential for understanding human groups. This paper aims to advance this understanding by investigating the extent to which group classification is dynamic and how this flexibility influences processes of group identification.

In the following sections, I explain the historical motivation for adopting a dynamic perspective on groups and group interactions. Although claims about the necessity of viewing groups as dynamic and complex systems have existed since the early 2000s, these ideas have not been integrated into a cohesive and constructive framework. My goal is to create such a framework by combining the flexibility of group membership with the dynamic nature of groups. I will explore how dynamic social identities shape group affiliation and vice versa, and clarify how this fluid understanding of groups softens the distinctions between in-groups and out-groups. By adopting this flexible perspective, I show that perceiving groups as dynamic entities, adaptable to shifts in membership, may offer strategies to mitigate intergroup rivalry and perceived polarization.

The discussion begins with an overview of sociological and psychological perspectives on human groups in Section 2, starting with Cooley and Parsons and moving to Sherif's work, which bridges to Turner and Tajfel's social identity theory, and subsequently to Packer and van Bavel's concept of dynamic social identities. Section 3 focuses on social identity theory, proposing a dynamic view of groups that emerges out of the idea of dynamic social identities and evolves through changes in membership and identity. Such an analysis entails a relaxed view of in-group out-group classifications, as explored in Section 4, underscoring how a non-binary view of group affiliation can enhance our understanding of human behavior. Section 5 examines the philosophical implications of adopting a dynamic view of groups and section 6 concludes by summarizing the insights gained and suggesting avenues for further research.

Before moving forward, it's important to delineate the scope of my historical analysis and theoretical selections. The interconnectedness of concepts like family, tribe, group, race, nation, and culture extends beyond the complexities any singular theory or piece of research can encapsulate. My examination will not encompass all these facets. Rather, I will concentrate on contemporary, scientific accounts of groups. Within this sphere, I narrow my focus to sociological and social psychological theories,[1] which lay the groundwork for the study of dynamic social identities, a pivotal element of my approach.

2. A brief history of human groups

To better grasp the concept of a dynamic view of groups and its importance, we should compare it with contemporary theories of social groups. There are three central dynamic elements that influence groups: dynamic social identities, dynamic group memberships, and dynamic categorization processes. The historical analysis provided in this section underscores the

evolution of the concept of groups over the past decade while highlighting the absence of these dynamic elements in prevalent theories.

In 1902, Charles Horton Cooley, a pioneering American sociologist, introduced one of the earliest and most renowned categorizations of social groups, distinguishing between primary and secondary groups[2] (Cooley, 1902). He described a "primary group" as one characterized by direct, face-to-face, enduring, and intimate personal relationships, like those found within families or among close friends. These groups were termed "primary" because they are often among the first social units an individual engages with, particularly during childhood, and are instrumental in shaping one's personal identity. As these groups are mostly based on familiar relations, they are addressed as rather stable entities in an individual's life. Secondary groups are typically larger, with impersonal, task-oriented relationships, where interactions are less personal and often transient. These groups usually form later in life and might be more dynamic in terms of the strength of social interactions within them, yet they exert a smaller influence on an individual's sense of self. Cooley believed that the mind is inherently social, and that society is essentially a construct of the mind (Cooley, 1902, pp. 37–45, 81). While later schools of thought have moved away from this idea, the primary-secondary group distinction coined by Cooley persisted and was elaborated upon by one of his notable critics, Talcott Parsons.

Talcott Parsons's seminal text "The Social Structure of the Family" echoes Cooley's distinction between primary and secondary socializations (T. Parsons, 1959). Parsons identifies five criteria that distinguish primary from secondary groups: primary group relations are diffuse, ascription-based (based on who or what you are), particularistic, other-oriented or group-oriented, and affective or emotion-laden. In contrast, secondary groups exhibit relations that are more specific or delimited, achievement-based (based on what you do or have done), universalistic, self-oriented, and emotionally neutral (T. Parsons, 1951, 1959). The definition of primary and secondary groups as occupying opposite ends of the same criteria spectrum, without any indication of movement across this spectrum or a sense of continuum in the definition itself (e.g., some relations may be primary in one context but secondary in another, or shift between these contexts), suggests that Parsons viewed these group criteria as relatively stable, with little change in affiliations between primary and secondary groups. Aside from extending Cooley's distinction of groups, Parsons disagreed with Cooley's reduction-to-individualism approach, with their views diverging sharply, particularly on the conceptualization of ideas without empirical grounding (see Gutman, 1958).

A shift toward an interactionist perspective on groups and individuals, diverging from Cooley's conceptualization, was proposed by social psychologist Muzafer Sherif. Sherif contended that a group is formed when

individuals unite in response to a shared issue or mutual motives that are best addressed collectively (M. Sherif, 1954a; M. Sherif & Sherif, 1953, 1956, 1965). Contrasting with Cooley's stance on groups as mental constructs, Sherif maintained that groups have an existence that is, to a degree, independent of the mental states of their members. Furthermore, groups can only be comprehensively understood in relation to other parts of a larger social system and within their specific sociocultural contexts (M. Sherif, 1954b). To understand groups, one must first appreciate the motives and needs of the group members, influenced by their sense of belonging, social status, and interactions with group members and other groups. However, Sherif does not address changes in individuals' sense of belonging, social status, and interactions, nor how such changes might affect group members' motives and affiliation with the group.

In psychology, the idea that group behavior results from the interplay between an individual and their environment was initially proposed by Kurt Lewin, a German-American psychologist, marking the foundation of the interactionist perspective (Lewin, 1947). This viewpoint, also endorsed by Muzafer Sherif and Solomon Asch, advocates for an understanding of how an individual's psychological traits are shaped by social structures, rather than reducing the individual-society dynamic to one or more elements.

Lewin is often recognized as the founder of social psychology due to his pioneering work utilizing scientific methods and experimentation to examine social behavior. Building on Lewin's work, social psychologists Henri Tajfel and John Turner developed a theory of social identity in the 1970s (H. Tajfel, 1978; H. Tajfel & Turner, 2001; J. Turner, 1975). Social identity theory provides an understanding that there is a difference between how an individual might identify himself and behave aside from the group and how he might behave once he is with the group (Haslam et al., 2012). Their theory suggests that once social identities are established, they tend to remain relatively stable as they become integral parts of the self-concept. This stable aspect of social identity theory helps explain persistent group behaviors, such as in-group favoritism and intergroup bias, but it overlooks how social identities can shift rapidly depending on context, individual goals, and situational factors.

Turner and Tajfel's work established one of the most important characterizations of groups: the classification of in-group and out-group. They theorized that our inclination to stereotype arises from a tendency to categorize things, which leads us to magnify differences between groups and similarities within them. When applied to people, these categorizations become what we refer to as the in-group (us) and the out-group (them). Through various experiments on intergroup discrimination (known as minimal group experiments), Tajfel and colleagues found out that people tend to immediately identify and establish in-

group and out-group attitudes even in random, meaningless, and temporary group assignments (H. Tajfel, 1970; H. Tajfel & Turner, 2001). The central hypothesis of social identity theory is that individuals see their in-group as different from other groups, view their in-group members as similar to them, and seek to find negative aspects of their out-group to enhance their self-esteem.

The distinction between in-group and out-group diverges from Cooley's and Parsons' models in two notable ways. Firstly, in-group and out-group attitudes stem from social categorization processes and identification with a group rather than from familial relations or the frequency of interactions. Family bonds and frequent meetings might fuel a sense of group affiliation, but they do not solely define one's in-group. It's possible to view family members as part of an out-group despite regular contact and familial ties. Secondly, contrary to Cooley's "emotionally neutral" secondary groups, emotions are integral to in-group and out-group dynamics. Positive emotions such as a sense of belonging and identification are linked to in-group perceptions, while negative emotions like competitiveness and a desire for superiority are associated with out-group perspectives.[3]

This selective historical overview highlights two key points. First, it emphasizes the need to understand groups as entities deeply interwoven with their members' social identities and sense of belonging. Second, it underscores the absence of dynamic elements in traditional views. For instance, Cooley and Parsons consider categorization processes as static, with some group classifications fixed by definition (such as those based on familial relations). Sherif views groups as more complex than Cooley but still regards them as relatively fixed entities with stable relations to other fixed entities (such as other groups and individuals). Turner and Tajfel's framework assumes that once an identity is established, it remains relatively fixed, overlooking how identities can change or evolve over time. Since groups are closely tied to social identity, their in-group and out-group definitions are typically seen as two distinct, fixed, and polarized categories.

However, a growing body of evidence suggests that in-group and out-group classifications are not static but dynamic processes, influenced by various factors like social identity, cultural norms, personal experiences, and situational context (M. Hogg et al., 2017). Experiments have shown that when a particular group identity becomes salient, the seemingly rigid categorization can shift, leading to former out-group members being reassessed as part of the in-group (J. Van Bavel & Cunningham, 2011, 2012). This indicates that group classifications can be malleable, subject to the prevailing context.

In the following sections, I expand on this idea of group fluidity and propose a view that regards groups as dynamic constructs, whose features and prototypes change with group-membership changes. Such a perspective

entails a non-binary approach to the categorization of in-groups and out-groups, which I will further develop in section 4.

3. Dynamic identities and dynamic groups

Social identity theory explains how social identities affect people's attitudes and behaviors regarding their ingroups and outgroups. Social identities are most influential when individuals consider membership in a particular group central to their self-concept, which makes them feel strong emotional ties to the group. Affiliation with a group confers self-esteem, which helps to sustain the social identity (J. Turner & Reynolds, 2010). Hence, social identities and groups are two entities in close and reciprocal relations, constantly influencing each other.

As a whole, Tajfel and Turner's theory of social identity primarily centers on the diverse facets of identity, encompassing social identity, group identity, and personal identity. In their approach to social identity and group behavior, social identity is considered a relatively stable component with limited potential for change due to its deep integration with an individual's personality. As such, people's self-representations, preferences, and goals are generally stable, serving as a baseline for cataloging and explaining interesting deviations (Gigerenzer, 2002; Mischel & Shoda, 1995; Packer & Van Bavel, 2015; Simon, 1982; Tversky & Kahneman, 1986). Later developments to social identity theory have suggested that self-categorization is flexible and context-dependent, but the very essence of identity – the self – does not change (J. C. Turner et al., 1994).

Dominic Packer and Jay Van Bavel challenge this traditional static view of self-representation, advocating for an understanding of self-concept as a dynamic process, oscillating between the individual and the collective based on group association (Packer & Van Bavel, 2015). They argue that social identities are dynamically constructed and reshaped within the context of group affiliation. This view recognizes that individuals navigate multiple identities based on varied dimensions such as age, gender, race, occupation, nationality, ethnicity, religiosity and more, and these identities can rapidly gain or lose prominence, leading to an "online and *ad hoc* construction of self" (Packer & Van Bavel, 2015, p. 228).

Dynamic social identity, as proposed by Packer and Van Bavel, builds on classic social identity theory by acknowledging that social identities are malleable and responsive to varying situational and environmental contexts. They posit that the same mental mechanisms that construct the individual's self-concept are also active in the formation of social identities. As individuals transition between groups, their self-representation swiftly adapts, aligning with the traits and context of the new group (Packer & Van Bavel, 2015, pp. 231–33).

Packer and Van Bavel primarily focus on the dynamic nature of self-concept and its effect on social identity. While they acknowledge the implications of this dynamic approach for understanding transformations within groups and broader social systems, they do not account for the effects that dynamic social identities may have on the group itself. In contrast, I focus on how dynamic social identities influence group characteristics (such as size, complexity level, number of norms, and social hierarchies), group categorization processes (the cognitive processes of classifying groups into different categories), and group membership (the feeling of attachment to one or more groups). Building upon Packer and Van Bavel's approach, I propose a framework in which groups are seen as dynamic social entities. I extend their theory to include not only dynamic social identities but also dynamic interactions between individuals, their social identities, their categorization processes, and their group belonging. Together, these elements combine to provide a dynamic view of the group itself.

The need for a more fluid perspective of group dynamics dates back several decades. Traditional social psychology perceived groups as static, context-free entities made up of generic individuals. Although Kurt Lewin is celebrated as the pioneer of small group research, his theoretical focus on individuals' subjective perceptions shifted attention toward the individual within group settings, detracting from the group as an independent entity of interest. During the 1980s, the rise of social cognition approaches to studying groups further entrenched the notion that groups are abstractions in individuals' minds rather than collective entities composed of interacting members (Griffith et al., 1993; Moreland et al., 1994). This perspective fostered a reductionist approach to groups, whereby concepts originally considered to be intrinsic to group-level constructs, such as cohesiveness, were reinterpreted at the interpersonal level (M. Hogg, 1987). Consequently, the theoretical entity of a group, as one that influences and is influenced by individuals' interactions, has largely disappeared.

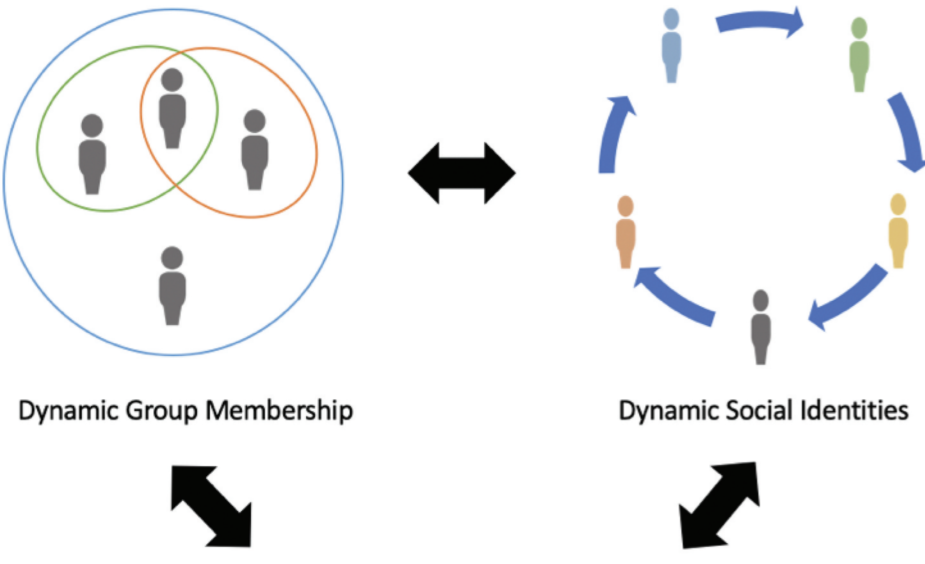
Many group experiments concentrate on a methodological abstraction that lacks any foothold in real life, as they investigate artificially constructed groups that have no counterparts in the actual social world (Månson, 1993). These studies often treat groups as isolated entities, devoid of historical or future context, and composed of generic, interchangeable individuals (Bordia et al., 1999). In contrast, it has been argued that groups should be viewed as complex, adaptive, evolving systems that interact with both smaller entities, like individual members, and larger ones, like organizations (McGrath et al., 2000). My framework responds to this critique by putting these views together, for the first time, into a cohesive and non-reductionist perspective of groups, highlighting the dynamic interactions between groups, social identities, and group membership.

The idea here is that shifts in individuals' group memberships and social identities not only affect the individuals and other group members but also influence the group and its defining characteristics. For example, changes in group membership affect group hierarchy and ranking systems. Studies have shown that close relationships and group memberships involve the dynamic construction of collective self-representation (Aron et al., 1991; J. Van Bavel & Cunningham, 2011). Therefore, when a group member decides to leave a group, it affects his collective self-representation, but it also changes the relationships between remaining members and induces changes to social hierarchies and social roles within the group. If the departing member was a central figure in the group, a leader, or a person of a high social ranking, his vacancy would require a substitution by another group member and could potentially lead to the group's disbandment. Consequently, a group experiencing changes in membership will inevitably undergo transformations in its hierarchical structure.

Changes in individuals' group membership can also influence the group's size and complexity levels, turning a large group smaller (when several members leave at once) or a simple group more complex (when new members join and more norms are created), and vice versa. Introduction of new members or role changes within the group can affect group dynamics and individuals' feelings of belonging, which may cause them to feel less committed to the group or alter their group membership. As a result of these processes, the group size, social hierarchy, and level of complexity can change.

The connection between group membership and social identity is critical for understanding the dynamic nature of groups. From an individual's viewpoint, the elements that change during his social interactions are his group memberships and social identities. These elements might change several times a day, sometimes even on an hourly basis. The constant and simultaneous shifts in group affiliations across many individuals, taking into account that individuals usually belong to different and sometimes overlapping groups, render the groups themselves dynamic entities. Their characteristics – such as size, complexity, hierarchical structure, role allocation, and norm quantity[4]—are in a state of constant interactive flux. Figure 1 illustrates these dynamic interconnections.

By developing Packer and van Bavel's theory of dynamic social identities further and exploring its impact on the structure of human groups, we arrive at an understanding of groups as dynamic entities that change with shifts in group memberships and social identities. It begins with the premise that changes in people's social identities influence their group affiliations. These shifts, in turn, instigate transformations within the group's characteristics. A similar process also occurs from the opposite direction: changes in the



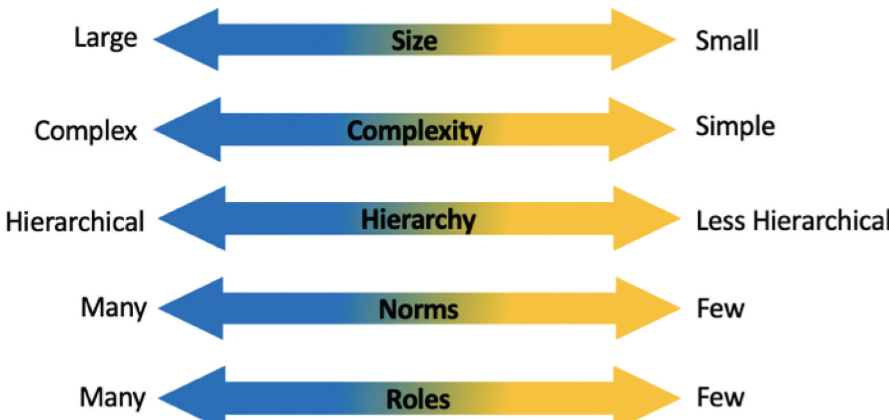


Figure 1. A dynamic view of groups. Note: This figure describes the interactions between group membership, social identity, and the characteristics of human groups. Dynamic group memberships (represented by people belonging to different and sometimes overlapping groups that often change) affect and are affected by dynamic social identities (which are constructed within the group context and change according to the social context). Both affect the characteristics of human groups and are affected by them. As people change their group memberships and group identities, each of these characteristics moves along the continuum. Hence any changes in group memberships can change a group from small to large, simple to complex, hierarchical to less hierarchical (or nonhierarchical), and so on.

group's characteristics may attract certain members, distance others, and even draw individuals from outside the group. As a result, individuals change their group memberships, which affects their social identities. Put

differently, the dynamic nature of the self and its impact on social identity affects the dynamic nature of human groups and group identity.

It's critical to clarify that a dynamic view of groups does not entail that groups can be reduced to their dynamic characteristics. As previously discussed in section 2, groups have their own distinct norms, cultures, values, and objectives; they have a standalone existence independent of their fluctuating characteristics or their members, and they interact within a network of other systems. Groups cannot be understood without understanding the inclinations, motivations, and feelings of belonging of group members, all of which are affected by their social identities (Beckwith, 2019; Greenaway et al., 2016; K. Kish Bar-On & Lamm, 2023). While the dynamic aspects of social identities and group membership significantly influence the group's characteristics, groups also include less dynamic qualities.

Some group features, such as goals and culture, may have more complex relations with dynamic social identities and may not change as frequently and rapidly as other characteristics. For instance, a group bound by a shared goal may exhibit stability in its objectives yet remain dynamic in other traits like its size and complexity. Therefore, even as members come and go, affecting its size, hierarchy, and complexity levels, the foundational goals of the group may persist. Such enduring elements do not diminish the idea of groups as dynamic entities; rather, they underscore the necessity to regard groups as heterogeneous and continuously evolving constructs, which is critical for a nuanced understanding of psychological diversity and social complexity.

Viewing groups as dynamic and evolving entities has important implications on the classification of in-groups and out-groups. The foundational idea of social identity theory is that individuals organize their social perception through categorical distinctions, simplifying a range of variables into discrete, and sometimes even binary, classes. This categorization tends to understate the differences within groups while emphasizing the differences between them. However, adopting a dynamic perspective of groups proposes a non-binary, spectrum-based approach to the categorization of in-group and out-group: all groups reside on a continuum, constantly shifting in their levels of proximity to us. We can perceive someone as belonging to a group that is more or less similar to our group, but those similarity levels are dynamic and change with changes in social context.

Embracing a non-binary understanding of groups holds the potential to mitigate intergroup rivalry and social polarization. Conceptually, it encourages us to view others' group associations as less rigid, identifying them as members of a "dynamic group with variable proximity to us" rather than strictly as an "out-group." This effect operates in both directions, as individuals who perceive others as less polarized, actively seek similarities, which reduces the immediate categorization of others as out-group

members. In the next section, I will examine how conventional, binary classifications of groups influence prominent psychological phenomena such as metaperceptions and perceived polarization, and explore evidence supporting the advantages of a dynamic, spectrum-based approach to group affiliation.

4. The malleability of in-groups and out-groups

The purpose of this section is twofold. First, it highlights the problematic nature of rigid in-group out-group classification, drawing on studies related to meta-perceptions and the phenomenon of perceived polarization. Then, it seeks to show that treating group affiliation as a firm, inflexible category (where an individual is seen as either a member or a nonmember of a group, thus classifying any group as either an in-group or an out-group with no changes and no middle ground) does not consistently align with actual human behavior and the complex nature of psychological science, and is, therefore, a concept in need of revision.

Let us commence from the recognized premise that social categorization is not a static state but a fluid and dynamic process where a multitude of categories can be relevant to oneself and others (Blaylock et al., 2024). Various theories have proposed that our cognitive perception of two distinct groups ("us" versus "them") can transition into a unified group ("us"), channeling the same cognitive and motivational processes that originally fostered intergroup biases toward former outgroup members. Differing from models that suggest moving from subgroup identification to a common ingroup identity (Gaertner & Dovidio, 2012), or that advocate for enhancing the salience of multiple categories at once to diminish in-group and out-group differentiation (Crisp & Hewstone, 2007), the approach I am proposing considers these categories as dynamic and continuous. My objective is not to revise an established mental representation of a group, but to conceptualize groups as inherently fluid in relation to us right from the outset. Through this lens, individuals not in our immediate in-group are not immediately assigned as out-group members but as belonging to a "group at a certain degree of closeness to us" depending on commonalities with each person. This perspective diffuses the stark boundaries traditionally drawn between in-groups and out-groups, fostering a spectrum of group categorizations that does not necessarily induce the animosity and negative feelings often associated with an out-group.

A central psychological phenomenon impacted by fixed in-group and out-group distinctions is an individual's self-perceptions and perceptions of others. Metaperceptions, or beliefs about how we are viewed by others, serve as implicit guides we use to navigate our social environments. These meta-perceptions influence our actions, the quality of our interpersonal

connections, and our sense of self (Felson & Reed, 1986; Lemay & Dudley, 2009). In contemplating how we are perceived, we often factor in characteristics tied to our own group memberships as well as the group affiliations of those we believe are perceiving us (Frey & Tropp, 2006). The in-group/out-group classification is pivotal in such cognitive processes, prompting immediate self-categorization and classification of others within these groupings. When someone categorizes his perceiver as an out-group member, it tends to negatively affect their beliefs regarding how they are perceived by that person.

Perceptions regarding how individuals believe they are viewed by others that are influenced by group affiliations, are known as *meta-stereotypes* (Vorauer et al., 2000). Evidence suggest that meta-stereotypes often do more damage than good to our understanding of the social world, as people often anticipate that out-group members will perceive them through a negative, stereotypical lens (Miller & Malloy, 2003). Research in intergroup relations indicates that group labels tend to amplify inaccuracies in social judgments by invoking stereotypes, which lead individuals to deviate from their more precise initial judgments (Lau et al., 2016; J. Lees & Cikara, 2020). Such evaluations are largely the result of categorizing in-groups and out-groups as two separate, static, and contrasting categories.

Group labels, characterized as in-group and out-group distinctions, give rise to intergroup bias and prejudice (Ashburn-Nardo et al., 2001; Otten & Wentura, 1999). Intergroup bias is the consistent inclination to appraise one's own group – or its members – more positively than an out-group or its members (Allport, 1954; Brewer, 1979). This propensity to favor one's group can manifest as in-group favoritism or as out-group derogation. Self-categorization as an in-group member leads to a blending of one's identity with the prototypical traits of that group, thereby intensifying perceived similarities with fellow in-group members (Hewstone et al., 2002). Trust, positive regard, cooperation, and empathy are typically reserved for in-group members only, which can lead to initial discriminatory practices, unjust reactions to out-group members, and negative perceptions about the other side.

There is a growing body of evidence suggesting that our perceptions of opposing views are often excessively negative. We tend to believe that "the other side" holds more negative feelings toward us than it actually does (Hawkins et al., 2019; J. Lees & Cikara, 2021; Moore-Berg et al., 2020; Ruggeri et al., 2021). Such inaccuracies contribute to the intensification of intergroup conflict and the emergence of perceived polarization. Perceived polarization is when individuals overestimate the severity of divisions, particularly in political or ideological contexts, within a society or group. Researchers propose that polarization should be viewed as the degree to which an individual perceives differences in the values and objectives of

political adversaries,[5] with perceived polarization assessed by measuring the estimated difference between the stances of different social groups (Ahler, 2014; Lupu, 2015; Westfall et al., 2015). Perceived polarization occurs when individuals perceive political or social groups as widely separated in their policy positions. Therefore, if someone believes that political parties' positions on issues are vastly different, they are perceiving polarization, regardless of the actual extent of disagreement or the true distance between the parties' positions (Yang et al., 2016).

Put differently, perceived polarization refers to presumed disparities that, in reality, do not exist. It encompasses the differences we erroneously think are there between us and others, based on their racial, cultural, sexual, gender, socioeconomic or religious identities. This significant discrepancy between our perceptions and the actual state of affairs underscores the shortcomings of our innate cognitive mechanisms. We are prone to see an unfamiliar group as a monolithic entity instead of recognizing its internal diversity. Consequently, we often perceive out-groups as more homogenous, extreme, and different from us than is actually the case. Our tendency to exaggerate the extremity of the other side largely arises from the inclination to categorize in-groups and out-groups as entirely opposing, distinct, and fixed entities.

The encouraging aspect of this discussion is that, while our inclination to categorize others into in-groups and out-groups is firmly entrenched in our social selves, research indicates that these divisions are changeable. Insights from psychology and neurobiology reveal that the process of in-group and out-group categorization is deeply rooted in our evolutionary history and that group distinction is not just a social construct but is also influenced by our biology (Fiske, 2010; Over, 2016; Sapolsky, 2017). Yet, these studies also highlight the malleability of such categories. Our in-group and out-group distinctions are not fixed; they are subject to change depending on the context, demonstrating that our social perceptions and biases are not immutable (Sapolsky, 2017, pp. 426–444).

The idea that group classification is dynamic and can change rapidly is reinforced by numerous studies, confirming that new group memberships can begin to alter perceptual processes almost instantaneously, within mere milliseconds of perception (Ratner & Amodio, 2013). This research underscores the idea that the significance of different social categories, and the categorization of groups as in-groups or out-groups, is contingent upon the specific social context. In one scenario, a group might be regarded as an in-group, but in a different context, the same group could be viewed as an out-group. This flexibility stems from the existence of multiple social identities, each varying in relevance depending on the particular social environment. As social identities shift, they can move certain groups closer or farther in relation to one's own group across the spectrum of group categorization,

essentially redefining group boundaries and associations based on social context.

Related studies indicate that individuals often initially identify those of a different race as members of an out-group; however, when a common social identity is highlighted (such as both individuals being lawyers, or sharing a particular hobby), the perception shifts, and the former out-group individual is reclassified as part of the in-group (Bernstein et al., 2007; J. Van Bavel & Cunningham, 2012). Along similar lines, if racial categories become an impediment during interactions, individuals may seek out a shared group identity, like identifying mutually as Americans or as members of a political party, rather than focusing on race or ethnicity (J. J. Van Bavel & Cunningham, 2009). This suggests that people willingly search for similarities with others, which reduces the immediate categorization of others as out-group members. Concentrating on shared identities makes people less likely to accentuate differences, thus moving away from a fixed binary group classification.

The evidence presented thus far supports the necessity of adopting a dynamic view of groups, as warranted by psychological research. This research demonstrates that group categorization processes are significantly more malleable than those described by Cooley, Parsons, and Sherif, and that these processes incorporate a far more dynamic notion of social identity than what Turner and Tajfel proposed. By highlighting the reciprocal effects that social identities have on group categorization, membership, and classification, the evidence points to a dynamic perspective on groups that goes beyond Packer and van Bavel's original analysis of dynamic social identities.

In addition to the evidential support for adopting a dynamic view of groups, there is also a practical reason for doing so. A dynamic realization of groups paves the way for actively addressing and reducing the harmful effects of in-group/out-group divisions, such as prejudice, discrimination, and conflict. By adopting a dynamic, non-binary framework of groups and combining it with education, increased social interaction, and a conscious effort to recognize and overcome these innate tendencies, we can create a more nuanced strategy for diminishing intergroup hostility and polarization. Figure 2 illustrates a more practical and useful everyday application of the proposed dynamic conceptual framework by comparing traditional in-group out-group classification and a non-binary framework of group categorization.

Up to this point, the discussion has highlighted several key insights: (1) historically, groups have been viewed as relatively stable entities, (2) there is substantial contemporary evidence supporting the dynamic nature of groups, at least to some extent, (3) this evidence suggests that we possess the capability to transition our social categorization toward flexible, spectrum-based classifications even in immediate perceptual processes, and (4)

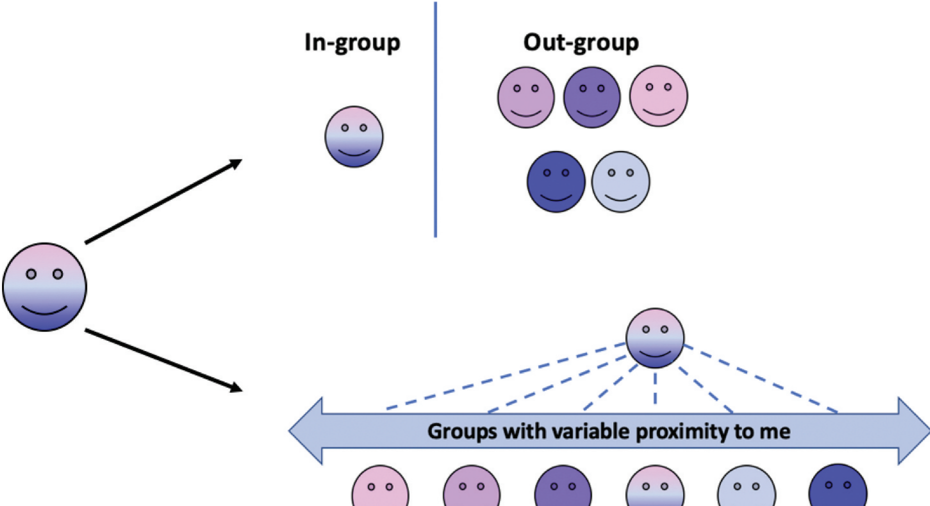


Figure 2. A spectrum-based view of group affiliation. Note:An individual encountering people from different groups would traditionally classify only those who are similar to him as his in-group members, and all the others as out-group members regardless of whether he shares some similarities with them (top). In a non-binary perspective, the individual would categorize people as belonging to groups with variable proximity to him, based on similarities to each individual (bottom). Those who are most similar to him will be categorized as his closest group (shortest distance between individual and group on the continuum). Those who are less similar to him, will not be immediately categorized as an unfamiliar uniform group, but will be affiliated with different groups across a spectrum of proximity, based on their common features.

there are tangible advantages to embracing a non-binary perspective of group dynamics. On a practical level, such a perspective can influence our metaperceptions regarding the views of others, thereby diminishing out-group hostility, reducing perceived polarization, and combating discrimination. Therefore, a non-binary conceptualization of groups not only enhances our understanding of certain psychological processes but can also refine our interventions and techniques in evaluating and alleviating undesirable social behaviors.

On a conceptual level, It could be contended that adding yet another conceptual model to the already diverse array of theories about human groups might overcomplicate the field of psychology, which grapples with an abundance of theoretical perspectives and loosely defined concepts and constructs (Flake & Fried, 2020; Meehl, 1967; Muthukrishna & Henrich, 2019; Oberauer & Lewandowsky, 2019). I believe that this multiplicity and dissatisfaction are intrinsic to the endeavor of understanding complex social reality; the variety and heterogeneity of theories mirrors the genuine complexity found in psychological phenomena like group behavior and social categorization (De Boeck et al., 2023; Koch, 1992). However, this does not imply that any new theory should be

accepted solely because human behavior is complex. Instead, it underscores that dynamic factors are everywhere, even within existing theories, and these theories can be slightly adjusted to reflect a more detailed perspective than they currently offer.

In the following section, I explore how incorporating a dynamic conceptualization of groups into prevalent theories in the philosophy of social science can help address the complexity of human nature. The fundamental idea is that a dynamic conceptualization of groups better captures the nuanced, intricate, and often imperceptible nature of social interactions and intergroup dynamics. The real-world complexity and the layered nature of group interactions cannot be adequately represented by rigid, binary, or unitary categorizations, as such definitions inherently lack the capacity to encompass the full scope of complexity and compositeness. Consequently, not only psychological theories but also philosophical perspectives that engage with individuals, groups, and their interactions may need to be revised.

5. Towards a dynamic social ontology

Adopting a dynamic view of human groups can help clarify the complex and multifaceted philosophical discussions surrounding group agency and social ontology. Specifically, such a dynamic perspective can steer the conversation toward a dynamic approach not only to human groups but also to social ontology as a research domain. In this section, I will focus on two central issues within the debate on social ontology and highlight the advantages that the proposed dynamic view can offer.

The first issue is whether groups can be reduced to simple ontological entities. Some scholars argue that group agency can be reduced to shared intentions, which are nonsocial mental states of individuals. This perspective builds on the view that social facts are composed exclusively of the psychological states of individual people (Mill, 1843; Popper, 1945; Watkins, 1952). According to these theories, the beliefs, intentions, and attitudes of a group depend solely on the attitudes of its members (Bratman, 1993; Gilbert, 1989; Tuomela & Miller, 1988). Conversely, those who oppose reducing group agency to individuals' mental states argue that groups are collective units of agency whose attitudes may be discontinuous with the attitudes of their members (Pettit, 2002). They maintain that group agents are real and that group agency cannot be reduced to the beliefs or mental states of individuals.

The problem with non-reductionist accounts, such as those proposed by Pettit and List, is that they claim to adhere to a version of methodological individualism, which is crucial to their perspective as it explains how aggregates of individual attitudes produce group attitudes without resorting

to spiritual explanations. As such, their non-reductionist approach uses at least some reductive elements by holding on to methodological individualism.

A dynamic view of groups offers a different way to address the issue, suggesting that both individual attitudes and group attitudes are dynamic and constantly interact. Following the dynamic approach advocated in this paper, there isn't a one-directional causality from individual attitudes to group attitudes (or vice versa), but rather a continuous process of mutual interactions between individuals, social identities, and groups. Methodological individualism is no longer necessary to explain how individual attitudes produce group attitudes, since a dynamic view of groups describes both attitudes as created and shaped by an ongoing process of mutual influence among social identities, group membership, and group categorization. By applying a dynamic view of groups to a non-reductionist account, we achieve an extended theory that is fully exempt from reductionism while portraying a more nuanced picture of the complexity of the social world.

The second issue I want to highlight is the challenge of understanding how fundamental ontological elements interact and affect each other, whether they are groups, individuals, or mental states. Regardless of the ontological perspective we adopt, interactions play a crucial role in both reductionist and non-reductionist approaches. However, neither approach adequately accounts for the emergence and nature of these interactions or considers the possibility that interactions themselves could be a subject of ontological investigation.[6]

One way to address these issues is to embrace a pluralistic approach to social ontology. Ontological pluralism can refer to various ontological frameworks, such as methodological individualism, irreducible group agency, and reducible mental states, all regarded as valid ontological accounts. Alternatively, it can denote an ontology that eschews reductionist or unificationist objectives. Helen Longino advocates for this latter interpretation, analyzing interactions as a distinct ontological category, not reducible to properties of its participants (Longino, 2020). Her treatment of social behavior as interaction builds on the idea that interactions are independent, self-sustained ontological entities.

However, the challenge with Longino's account is that interactions, being embedded in social contexts, cannot be fully understood without considering their interacting elements. Understanding the nature and origin of social interactions requires knowing who the involved entities are, the relationships between them, whether they are part of the same group or different groups, if they follow similar or different norms, and if they share one or more social identities, among other factors. By treating interactions as independent, context-deprived entities, one

cannot fully understand the reasons and motivations behind group behavior, nor the complexity of human nature and its ontological elements.

A dynamic view of groups can enhance Longino's account by redefining interactions as dynamic yet non-reducible ontological entities, thereby bringing us one step closer to addressing the complexity of human nature. The dynamic view proposed here assumes that dynamic social identities and dynamic group classification processes are grounded in social interactions. Without social interactions, nothing happens; in this sense, interactions are the fundamental elements of the social world. However, interactions are never context-deprived, and their essence and influence evolve with changes in the interacting entities (whether individuals, groups, identities, emotions, or other factors). By integrating this dynamic view with Longino's account, we obtain a more comprehensive ontological perspective that includes dynamic social interactions and the objects of those interactions: dynamic groups and dynamic social identities. This threefold dynamic approach to interactions, identities, and groups treats them as flexible elements while maintaining ontological pluralism by not reducing any of them to other ontological elements.

This kind of dynamic framing can assist in integrating the complexity and dynamics of human behavior with ontology as a metaphysical framework. The idea here is to embrace a notion of dynamic social ontology, which builds on the dynamic of human groups alongside dynamic social identities. A central characteristic of human behavior is that it is not fixed; people change their behaviors, beliefs, groups, identities, norms, and commitments based on changes in social contexts. Dynamic ontology is a concept that refers to the idea that the fundamental nature of reality changes over time. It considers being and reality not in a traditional metaphysical way – that is, not as a ground, an origin, a cause – but as a movement, a flux, a dynamic process.

The dynamic social ontology proposed here derives from applying dynamic ontology to social behavior. It emphasizes two main points: (1) ontological entities such as individuals, groups, and interactions are constantly changing and influencing (or being influenced by) other ontological entities, and (2) we can decide on the ontology as we go along. We do not need to set up the ontology upfront, and then proceed to test if human nature corresponds; we can change the ontology during our investigation of human behavior, and end up having several ontologies, each corresponding to a certain phase in a psychological experiment.

Consider, for example, a study showing that individuals behave according to their group identity only when in a group context. In this scenario, one might argue that individuals and their interactions are the basic ontological entities (ontological individualism). Now, suppose that a different study

suggests that an individual's group identity persists even when they leave the group context, as they continue to adhere to group norms. In this case, one might adopt a non-reductionist ontological account of group agency, recognizing an essence to the group that exists (group norms, identity) even when the group does not. Dynamic social ontology allows us to adjust ontological assumptions as new results emerge and to hold multiple ontological views simultaneously. As new evidence arises, we can again revise our ontological assumptions based on these discoveries in human behavior.

To conclude, blurring group boundaries and adopting a non-binary approach to human groups redefines how we think about groups in general. As groups constantly change based on changes in group memberships and social identities, the ontological status of groups experiences these changes as well. Dynamic social ontology allows groups to changes, but more importantly, it allows the *ontology* itself to change. We no longer have to commit ourselves to one, specific notion of human groups or group categories. We can adopt different ontologies with different categories, each pertaining to explain a different aspect of human behavior, in order to better account for the complex and multilayered nature of social life.

6. Discussion and concluding remarks

The complex relationship between groups and individuals encompasses social identity and group identity as two leading mechanisms that affect social behavior. The current paper aimed to take a step toward clarifying this convoluted connection from its historical conception. It showed that the idea of understanding groups as dependent on their members' social status and feelings of belonging was already mentioned by Sherif in the 1950s, and the idea to view groups as dynamic and complex systems was put forward by McGrath, Arrow, and Berdahl in the 2000s. However, these ideas were never put together into a coherent standpoint. My goal here is to offer such a standpoint by integrating the primacy of group membership with the dynamic nature of groups. I do so by proposing a dynamic perspective of groups as entities that change with changes in group memberships, which calls for a flexible notion of in-group/out-group categorization.

Packer and van Bavel's theory of dynamically constructed social identities maintained that individuals categorize themselves according to multiple dimensions, and their identities shift and reconstruct the self. In a similar vein, I suggest that groups are categorized by multiple characteristics whose level of magnitude is affected by changes in group belonging, thereby reconstructing the characteristics of the group. If Packer and van Bavel's conclusion is "change the context, change the self" (Packer & Van Bavel, 2015, p. 238), my variation on it would be "change group memberships, change the group."

This dynamic viewpoint challenges traditional in-group and out-group categorizations, advocating for a non-binary approach to group classification. It suggests that all groups exist on a continuum, constantly shifting in proximity levels. Individuals may see others as part of a group more or less akin to their own, with these levels dynamically changing based on social context. Embracing this non-binary stance encourages us to view others' group affiliations as fluid, identifying them as part of a "dynamic group with some proximity to me" rather than simply as an "out-group." This shift operates bidirectionally; perceiving others as less polarized prompts individuals to actively seek similarities, reducing immediate categorization as out-group members.

Such a perspective offers new ways of investigation for behavioral scientists who study group membership, cooperation, and group conflict by offering them a conceptual framework that encapsulates the dynamics between group membership and group characteristics. For instance, in economic research investigating the impact of group size on cooperation, mutual monitoring, and punishment, varying outcomes emerge when group size changes (Carpenter, 2007; Nosenzo et al., 2015). The concept of dynamic group characteristics underscores that merely identifying differences in cooperation levels between small and large groups does not portray the whole picture. Comprehensive understanding necessitates insights into the processes driving these differences, their initiators, implications for group members, and the dynamics during transitions between small and large groups. Using a dynamic framework of groups, these kinds of experiments will not only account for whether *there is* a difference in cooperation or conflict levels amid groups but also provide a comprehensive picture of *how* perceptions about group membership change during transitions between groups.

There is still work to be done to properly apply and adjust the idea of groups as dynamic entities to laboratory conditions and field experiments, considering how it may affect the results of previous and future studies. I have suggested a flexible notion of groups that builds on the dynamic nature of social identity. Nevertheless, here too, the dynamic theory of groups, identities, and their interactions remains to be developed, building on a dynamic social ontology of the kind suggested above. This paper highlights the importance of dynamic groups and shows that a flexible categorization of in-groups and out-groups should at least be taken into consideration when studying, analyzing, and defining human groups. As such, it is the first step toward a larger interdisciplinary endeavor to understand human behavior and group relations.

Notes

1. It's crucial to recognize that sociologists and social psychologists follow different traditions and objectives in their study of groups. Sociologists examine the roots and development of groups within the tapestry of real-world cultures and societies, engaging in fieldwork and naturalistic experiments. On the other hand, social psychologists approach groups as theoretical constructs in controlled laboratory settings to delve deeper into cognitive processes. While sociologists aim to provide a rich contextual understanding of group behavior, social psychologists use groups as a means to probe into the workings of the mind. The interplay between these distinct methodologies has significantly influenced the historical evolution of both disciplines.
2. Cooley himself did not use the term "secondary group"; the term emerged later, but the distinction is affiliated with him (Britannica, 2022).
3. In this context, I address emotions in a preliminary manner: by merely noting that emotions are absent in Cooley's framework but integral to the in-group/out-group classification. The specific function of emotions and the debate on whether they give rise to a sense of "groupness" or are a result of it is a topic with a rich intellectual history. This discourse spans from the foundational theories of Durkheim and Le Bon (Durkheim, 1912; Le Bon, 1896) to contemporary examinations of group emotionality, shared emotions and emotional interactions (for instance, Goldenberg, 2023; Halperin et al., 2011; Krueger & Szanto, 2016; Tomasello, 2009; Zahavi, 2015).
4. Although human groups possess a multitude of distinct attributes, the majority of definitions typically emphasize these five traits as their core characteristics (Blau & Scott, 1962; Cartwright & Zander, 1968; M. Sherif & Sherif, 1965).
5. Scholars have studied polarization in various forms, and in general, polarization has been understood on both individual and societal level and in both cognitive (issue polarization) and an affective (affective polarization) ways. To complement these conceptualizations of polarization, scholars have begun paying attention to the concept of perceived polarization. For a detailed overview of the different kinds of polarization see (Iyengar et al., 2019).
6. For example, Pettit and List maintain that group agency requires nothing but the emergence of coordinated, psychologically intelligible dispositions in individual members, but they do not account for how such a coordination emerges, or how it even becomes possible or rational (Pettit and List 2011). Bratman claims that shared intention consists primarily of individuals and their interrelations, but he does not explain what is the nature of such interrelations or how did they arise (Bratman, 1993).

Disclosure statement

No potential conflict of interest was reported by the author(s).

Funding

This work was partially supported by the Institute for Humane Studies under Grant [IHS017865].

Notes on contributor

Kati Kish Bar-On holds a Marie Skłodowska-Curie postdoctoral fellowship at MIT, engaging in interdisciplinary research that spans philosophy of social science, philosophy of mathematics, and behavioral studies. Her research delves into the dynamic and complex interactions between individuals and their communities, aiming to elucidate their influence on individuals' behavior in social settings. Her goal is to organize the astonishing complexity of human behavior around four basic core concepts: groups, norms, emotions, and social identity. To do that, she is developing a conceptual framework that links individual and group behaviors to the social and cultural contexts within which people think, feel, and act. Kati's scholarly contributions have been published in *Philosophical Transactions of the Royal Society B: Biological Sciences*, *Philosophy of Science*, *Synthese*, *Perspectives on Psychological Science*, *Behavioral and Brain Sciences*, and *Science in Context*. Her recent project produced two coauthored papers examining the role of social interactions in group behavior:

- Kish Bar-On, K., & Lamm, E. (2024). Neither Human Normativity nor Human Groupness Are in Humanity's Genes: A Commentary on Cecilia Heyes's "Rethinking Norm Psychology." *Perspectives on Psychological Science*. https://doi.org/10.1177/17456916231187391
- Kish Bar-On, K., & Lamm, E. (2023). The interplay of social identity and norm psychology in the evolution of human groups. *Philosophical Transactions of the Royal Society B: Biological Sciences*, *378*(1872). https://doi.org/10.1098/rstb.2021.0412

ORCID

Kati Kish Bar-On http://orcid.org/0000-0001-6867-3701

References

Ahler, D. J. (2014). Self-fulfilling misperceptions of public polarization. *The Journal of Politics*, *76*(3), 607–620. https://doi.org/10.1017/S0022381614000085

Allport, G. W. (1954). *The nature of prejudice*. Addison-Wesley.

Aron, A., Aron, E. N., Tudor, M., & Nelson, G. (1991). Close relationships as including other in the self. *Journal of Personality & Social Psychology*, *60*(2), 241–253. https://doi.org/10.1037/0022-3514.60.2.241

Ashburn-Nardo, L., Voils, C., & Monteith M. (2001). Implicit associations as the seeds of intergroup bias: How easily do they take root? *Journal of Personality & Social Psychology*, *81*(5), 789–799. https://doi.org/10.1037/0022-3514.81.5.789

Beckwith, C. (2019). Who belongs? How status influences the experience of Gemeinschaft. *Social Psychology Quarterly*, *82*(1), 31–50. https://doi.org/10.1177/0190272518811812

Bernstein, M. J., Young, S. G., & Hugenberg, K. (2007). The Cross-category effect: Mere social categorization is sufficient to elicit an own-group Bias in face recognition. *Psychological Science*, *18*(8), 706–712. https://doi.org/10.1111/j.1467-9280.2007.01964.x

Binford, L. R. (2001). *Constructing frames of reference: An analytical method for archaeological theory building using ethnographic and environmental data sets*. University of California Press.

Blau, P. M., & Scott, W. R. (1962). *Formal organizations: A comparative approach*. Stanford University Press.

Blaylock, D., Turner, R. N., & Crisp, R. J. (2024). Redrawing the boundaries: Creating positive intergroup relations interventions through shared values, memberships, and identities. In E. Halperin, B. Hameiri, & R. Littman (Eds.), *Psychological intergroup interventions evidence-based approaches to improve intergroup relations* (pp. 17–30). Routledge.

Bordia, P., Difonzo, N., & Chang, A. (1999). Rumor as group problem solving: Development patterns in informal computer-mediated groups. *Small Group Research*, *30*(1), 8–28. https://doi.org/10.1177/104649649903000102

Bratman, M. (1993). Shared intention. *Ethics*, *104*(1), 97–113. https://doi.org/10.1086/293577

Brewer, M. B. (1979). In-group Bias in the minimal intergroup situation: A cognitive-motivational analysis. *Psychological Bulletin*, *86*(2), 307–324. https://doi.org/10.1037/0033-2909.86.2.307

Britannica, E. O. E. (2022). *Social group*. In Encyclopedia Britannica. https://www.britannica.com/topic/social-group

Carpenter, J. (2007). Punishing free-riders: How group size affects mutual monitoring and the provision of public goods. *Games and Economic Behavior*, *60*(1), 31–51. https://doi.org/10.1016/j.geb.2006.08.011

Cartwright, D., & Zander, A. (1968). *Group dynamics: Research and theory* (3rd ed.). Row, Peterson.

Cooley, C. H. (1902). *Human nature and the social order*. Andesite Press.

Crisp, R. J., & Hewstone, M. (2007). Multiple Social Categorization. In *Advances in experimental social psychology* (Vol. 39, pp. 163–254). https://doi.org/10.1016/S0065-2601(06)39004-1

De Boeck, P., Pek, J., Walton, K., Wegener, D. T., Turner, B. M., Andersen, B. L., Beauchaine, T. P., Lecavalier, L., Myung, J. I., & Petty, R. E. (2023). Questioning psychological constructs: Current issues and proposed changes. *Psychological Inquiry*, *34*(4), 239–257. https://doi.org/10.1080/1047840X.2023.2274429

Durkheim, É. (1912). *The elementary forms of religious life*. The Free Press.

Epstein, B. (2015). *The ant trap: Rebuilding the foundations of the social sciences*. Oxford University Press.

Felson, R. B., & Reed, M. D. (1986). Reference groups and self-appraisals of academic ability and performance. *Social Psychology Quarterly*, *49*(2), 103–109. https://doi.org/10.2307/2786722

Fiske, S. T. (2010). *Social beings: Core motives in social psychology*. Wiley.

Flake, J. K., & Fried, E. I. (2020). Measurement schmeasurement: Questionable measurement practices and how to avoid them. *Advances in Methods and Practices in Psychological Science*, *3*(4), 456–465. https://doi.org/10.1177/2515245920952393

Frey, F. E., & Tropp, L. R. (2006). Being seen as individuals versus as group members: Extending research on metaperception to intergroup contexts. *Personality and Social Psychology Review*, *10*(3), 265–280. https://doi.org/10.1207/s15327957pspr1003_5

Fuchs, B., Sornette, D., & Thurner, S. (2014). Fractal multi-level organisation of human groups in a virtual world. *Scientific Reports*, *4*(6526). https://doi.org/10.1038/srep06526

Gaertner, S. L., & Dovidio, J. F. (2012). The common ingroup identity model. In P. A. M. Van Lange, A. W. Kruglanski, & E. T. Higgins (Eds.), *Handbook of theories of social psychology* (Vol. 2, pp. 439–457). Sage Publications Ltd. https://doi.org/10.4135/9781446249222.n48

Gigerenzer, G. (2002). *Bounded rationality: The adaptive toolbox*. MIT Press.

Gilbert, M. (1989). *On social facts*. Princeton University Press.

Goeree, J. K., Holt, C. A., & Laury, S. K. (2002). Private costs and public benefits: Unraveling the effects of altruism and noisy behavior. *Journal of Public Economics*, *83*(2), 255–276. https://doi.org/10.1016/S0047-2727(00)00160-2

Goldenberg, A. (2023). Regulating collective emotion. In J. J. Gross & B. Q. Ford (Eds.), *Handbook of emotion regulation* (pp. 183–189). Guilford Press.

Greenaway, K. H., Cruwys, T., Haslam, S. A., & Jetten, J. (2016). Social identities promote well-being because they satisfy global psychological needs. *European Journal of Social Psychology*, *46*(3), 294–307. https://doi.org/10.1002/ejsp.2169

Griffith, W. I., Parker, M. J., & Törnblom, K. Y. (1993). Putting the group back into intergroup justice studies. *Social Justice Research*, *6*(4), 331–342. https://doi.org/10.1007/BF01050335

Gutman, R. (1958). Cooley: A perspective. *American Sociological Review*, *23*(3), 251–256. https://doi.org/10.2307/2089238

Halperin, E., Sharvit, K., & Gross, J. J. (2011). Emotion and emotion regulation in intergroup conflict: An appraisal-based framework. In D. Bar-Tal (Ed.), *Intergroup conflicts and their resolution: A social psychological perspective* (pp. 83–103). Psychology Press. https://doi.org/10.4324/9780203834091

Haslam, A., Reicher, S. D., & Reynolds, K. (2012). Identity, influence, and change: Rediscovering John Turner's vision for social psychology. *British Journal of Social Psychology*, *51*(2), 201–218. https://doi.org/10.1111/j.2044-8309.2011.02091.x

Hawkins, S., Yudkin, D., Juan-Torres, M., & Dixon, T. (2019). *Hidden tribes: A study of America's polarized landscape* (More in Common). https://hiddentribes.us/media/qfpekz4g/hidden_tribes_report.pdf

Hewstone, M., Rubin, M., & Willis, H. (2002). Intergroup bias. *Annual Review of Psychology*, *53*(1), 575–604. https://doi.org/10.1146/annurev.psych.53.100901.135109

Hogg, M. (1987). Social identity and group cohesiveness. In J. Turner, M. A. Hogg, P. J. Oakes, S. D. Reicher, & M. S. Wetherell (Eds.), *Rediscovering the social group: A self categorization theory* (pp. 89–116). Blackwell Pub.

Hogg, M., Abrams, D., & Brewer, M. B. (2017). Social identity: The role of self in group processes and intergroup relations. *Group Processes&intergroup Relations(20)*, *20*(5), 570–581. https://doi.org/10.1177/1368430217690909

Iyengar, S., Lelkes, Y., Levendusky, M. S., Malhotra, N., & Westwood, S. (2019). The origins and consequences of affective polarization in the United States. *Annual Review of Political Science*, *22*(1), 129–146. https://doi.org/10.1146/annurev-polisci-051117-073034

Kish Bar-On, K., & Lamm, E. (2023). The interplay of social identity and norm psychology in the evolution of human groups. *Philosophical Transactions of the Royal Society B: Biological Sciences*, *378*(1872), 20210412. https://doi.org/10.1098/rstb.2021.0412

Kish Bar-On, K., & Lamm, E. (2024). Neither human normativity nor human groupness are in humanity's genes: A commentary on Cecilia Heyes's "rethinking norm psychology". *Perspectives on Psychological Science*, *19*(1), 46–48. https://doi.org/10.1177/17456916231187391

Koch, S. (1992). Psychology's Bridgman vs Bridgman's Bridgman: An essay in reconstruction. *Theory & Psychology*, *2*(3), 261–290. https://doi.org/10.1177/0959354392023002

Kottak, C. P. (2007). *Mirror for humanity: A concise introduction to cultural anthropology*. McGraw-Hill.

Krueger, J., & Szanto, T. (2016). Extended emotions. *Philosophy Compass*, *11*(12), 863–878. https://doi.org/10.1111/phc3.12390

Lau, T., Morewedge, C. K., & Cikara, M. (2016). Overcorrection for social-categorization information moderates impact bias in affective forecasting. *Psychological Science*, *27*(10), 1340–1351. https://doi.org/10.1177/0956797616660292

Layton, R., & O'Hara, S. (2010). Human social evolution: A comparison of Hunter- Gatherer and chimpanzee social organization. In R. Dunbar, C. Gamble, & J. Gowlett (Eds.), *Social brain, distributed mind* (pp. 83–113). Oxford University Press.

Le Bon, G. (1896). *The crowd: A study of the popular mind*. Viking Press.

Lees, J., & Cikara, M. (2020). Inaccurate group meta-perceptions drive negative out-group attributions in competitive contexts. *Nature Human Behaviour*, *4*(3), 279–286. https://doi.org/10.1038/s41562-019-0766-4

Lees, J., & Cikara, M. (2021). Understanding and combating misperceived polarization. *Phil Trans R Soc B*, *376*(20200143), 20200143. https://doi.org/10.1098/rstb.2020.0143

Lemay, E. P., Jr., & Dudley, K. L. (2009). Implications of reflected appraisals of interpersonal insecurity for suspicion and power. *Personality & Social Psychology Bulletin*, *35*(12), 1672–1686. https://doi.org/10.1177/0146167209348380

Lewin, K. (1947). Frontiers of group dynamics: Concept, method and reality in social science, social equilibria, and social change. *Human Relations*, *1*(1), 5–41. https://doi.org/10.1177/001872674700100103

Longino, H. E. (2020). Interaction: A case for ontological pluralism. *Interdisciplinary Science Reviews*, *45*(3), 432–445. https://doi.org/10.1080/03080188.2020.1794385

Lupu, N. (2015). Party polarization and Mass partisanship: A comparative perspective. *Political Behavior*, *37*(2), 331–356. https://doi.org/10.1007/s11109-014-9279-z

Månson, P. (1993). What is a group? A multilevel analysis. *Advances in Group Processes*, *16*, 253–281.

McGrath, J., Arrow, H., & Berdahl, J. L. (2000). The study of groups: Past, present, and future. *Personality and Social Psychology Review*, *4*(1), 95–105. https://doi.org/10.1207/S15327957PSPR0401_8

Meehl, P. E. (1967). Theory-testing in psychology and physics: A methodological paradox. *Philosophy of Science*, *34*(2), 103–115. https://doi.org/10.1086/288135

Mill, J. S. (1843). *A system of logic, ratiocinative and inductive*. John W. Parker.

Miller, S., & Malloy, T. E. (2003). Interpersonal behavior, perception, and affect in status-discrepant dyads: Social interaction of gay and heterosexual men. *Psychology of Men & Masculinity*, *4*(2), 121–135. https://doi.org/10.1037/1524-9220.4.2.121

Mischel, W., & Shoda, Y. (1995). A cognitive-affective system theory of personality: Reconceptualizing situations, dispositions, dynamics, and invariance in personality structure. *Psychological Review*, *102*(2), 246–268. https://doi.org/10.1037/0033-295X.102.2.246

Moore-Berg, S. L., Ankori-Karlinsky, L.-O., Hameiri, B., & Bruneau, E. (2020). Exaggerated meta-perceptions predict intergroup hostility between American political partisans. *Proceedings of the National Academy of Sciences*, *117*(26), 14864–14872. https://doi.org/10.1073/pnas.2001263117

Moreland, R. L., Hogg, M. A., & Hains, S. C. (1994). Back to the future: Social psychological research on groups. *Journal of Experimental Social Psychology*, *30*(6), 527–555. https://doi.org/10.1006/jesp.1994.1025

Muthukrishna, M., & Henrich, J. (2019). A problem in theory. *Nature Human Behaviour*, *3*(3), 221–229. https://doi.org/10.1038/s41562-018-0522-1

Nosenzo, D., Quercia, S., & Sefton, M. (2015). Cooperation in small groups: The effect of group size. *Experimental Economics*, *18*(1), 4–14. https://doi.org/10.1007/s10683-013-9382-8

Oberauer, K., & Lewandowsky, S. (2019). Addressing the theory crisis in psychology. *Psychonomic Bulletin & Review*, *26*(5), 1596–1618. https://doi.org/10.3758/s13423-019-01645-2

Otten, S., & Wentura, D. (1999). About the impact of automaticity in the minimal group paradigm: Evidence from affective priming tasks. *European Journal of Social Psychology*, *29*(8), 1049–1071. https://doi.org/10.1002/(SICI)1099-0992(199912)29:8<1049::AID-EJSP985>3.0.CO;2-Q

Over, H. (2016). The origins of belonging: Social motivation in infants and young children. *Philosophical Transactions of the Royal Society B: Biological Sciences*, *371*(1686), 20150072. https://doi.org/10.1098/rstb.2015.0072

Packer, D. J., & Van Bavel, J. (2015). The dynamic nature of identity: From the brain to behavior. In N. Branscombe & K. Reynolds (Eds.), *The psychology of change: Life contexts, experiences, and idetities* (pp. 225–245). Psychology Press.

Parsons, T. (1951). *The social system*. Routledge.

Parsons, T. (1959). The social structure of the family. In R. N. Anshen (Ed.), *The family: Its functions and destiny* (pp. 173–201). Harper and Rowe.

Pettit, P. (2002). Collective persons and powers. *Legal Theory*, *8*(4), 443–470. https://doi.org/10.1017/S1352325202084021h

Popper, K. (1945). *The open society and its enemies*. Routledge & Kegan Paul Ltd.

Ratner, K. G., & Amodio, D. M. (2013). Seeing "us vs. Them": Minimal group effects on the neural encoding of faces. *Journal of Experimental Social Psychology*, *49*(2), 298–301. https://doi.org/10.1016/j.jesp.2012.10.017

Ruggeri, K., Većkalov, B., Bojanić, L., Andersen, T. L., Ashcroft-Jones, S., Ayacaxli, N., Barea-Arroyo, P., Berge, M. L., Bjørndal, L. D., Bursalıoğlu, A., Bühler, V., Čadek, M., Çetinçelik, M., Clay, G., Cortijos-Bernabeu, A., Damnjanović, K., Dugue, T. M., Esberg, M., Esteban-Serna, C. . . . Folke, T. (2021). The general fault in our fault lines. *Nature Human Behaviour*, *5*(10), 1369–1380. https://doi.org/10.1038/s41562-021-01092-x

Sapolsky, R. M. (2017). *Behave: The biology of humans at our best and worst*. Penguin Press.

Sherif, M. (1954a). *Experimental study of positive and negative intergroup attitudes between experimentally produced groups: Robbers cave study*. University of Oklahoma.

Sherif, M. (1954b). Sociocultural influences in small group research. *Sociology and Social Research*, *39* , 1–10.

Sherif, M., & Sherif, C. W. (1953). *Groups in harmony and tension; an integration of studies on intergroup relations*. Harper.

Sherif, M., & Sherif, C. W. (1956). *An outline of social psychology*. Harper.

Sherif, M., & Sherif, C. W. (1965). Ingroup and intergroup relations. In J. O. Whittaker (Ed.), *Introduction to psychology* (pp. 541–572). Saunders.

Simon, H. A. (1982). *Models of bounded rationality: Empirically grounded economic reason* (Vol. 3). MIT Press.

Slotter, E. B., Winger, L., & Soto, N. (2015). Lost without each other: The influence of group identity loss on the self-concept. *Group Dynamics: Theory, Research & Practice*, *19*(1), 15–30. https://doi.org/10.1037/gdn0000020

Sterelny, K. (2021). *The pleistocene social contract*. Oxford University Press.

Steward, J. H. (1972). *Theory of culture change: The methodology of multilinear evolution*. University of Illinois Press.

Stiner, M. C. (2002). Carnivory, coevolution, and the geographic spread of the genus homo. *Journal of Archaeological Research*, *10*(1), 1–63. https://doi.org/10.1023/A:1014588307174

Tajfel, H. (1970). Experiments in intergroup discrimination. *Scientific American*, *223*(5), 96–102. https://doi.org/10.1038/scientificamerican1170-96

Tajfel, H. (1978). The achievement of inter-group differentiation. In H. Tajfel (Ed.), *Differentiation between social groups* (pp. 77–100). Academic Press.

Tajfel, H., & Turner, J. (2001). An integrative theory of intergroup conflict. In M. A. Hogg & D. Abrams (Eds.), *Intergroup relations: Essential readings* (pp. 94–109). Psychology Press.

Tomasello, M. (2009). *Why we cooperate*. MIT Press.

Tuomela, R., & Miller, K. (1988). We-Intentions. *Philosophical Studies*, *53*(3), 367–389. https://doi.org/10.1007/BF00353512

Turner, J. (1975). Social comparison and social identity: Some prospects for intergroup behaviour. *European Journal of Social Psychology*, *5*(1), 1–34. https://doi.org/10.1002/ejsp.2420050102

Turner, J. C., Oakes, P. J., Haslam, S. A., & McGarty, C. (1994). Self and collective: Cognition and social context. *Personality & Social Psychology Bulletin*, *20*(5), 454–463. https://doi.org/10.1177/0146167294205002

Turner, J. C., & Onorato, R. S. (1999). Social identity, personality, and the self-concept: A self-categorizing perspective. In T. R. Tyler, R. M. Kramer, & O. P. John (Eds.), *The psychology of the social self* (pp. 11–46). Lawrence Erlbaum Associates Publishers.

Turner, J., & Reynolds, K. (2010). The story of social identity. In T. Postmes & N. Branscombe (Eds.), *Rediscovering social identity: Core sources* (pp. 13–32). Psychology Press.

Tversky, A., & Kahneman, D. (1986). Rational choice and the framing of decisions. *Journal of Business Ethics*, *59*(S4), S251–S278. https://doi.org/10.1086/296365

Van Bavel, J., & Cunningham, W. A. (2011). A social neuroscience approach to self and social categorisation: A new look at an old issue. *European Review of Social Psychology*, *21*(1), 237–284. https://doi.org/10.1080/10463283.2010.543314

Van Bavel, J., & Cunningham, W. A. (2012). A social identity approach to person memory: Group membership, collective identification, and social role shape attention and memory. *Personality & Social Psychology Bulletin*, *38*(12), 1566–1578. https://doi.org/10.1177/0146167212455829

Van Bavel, J. J., & Cunningham, W. A. (2009). Self-categorization with a novel mixed-race group moderates automatic social and racial biases. *Personality & Social Psychology Bulletin*, *35*(3), 321–335. https://doi.org/10.1177/0146167208327743

Vorauer, J. D., Hunter, A. J., Main, K. J., & Roy, S. A. (2000). Meta-stereotype activation: Evidence from indirect measures for specific evaluative concerns experienced by members of dominant groups in intergroup interaction. *Journal of Personality & Social Psychology*, *78*(4), 690–707. https://doi.org/10.1037/0022-3514.78.4.690

Watkins, J. W. N. (1952). Ideal types and historical explanation. *British Journal for the Philosophy of Science*, *3*(9), 22–43. https://doi.org/10.1093/bjps/III.9.22

Westfall, J., Van Boven, L., Chambers, J. R., & Judd, C. M. (2015). Perceiving political polarization in the United States: Party identity strength and attitude extremity exacerbate the perceived partisan divide. *Perspectives on Psychological Science: A Journal of the Association for Psychological Science*, *10*(2), 145–158. https://doi.org/10.1177/1745691615569849

Yang, J., Rojas, H., Wojcieszak, M., Aalberg, T., Coen, S., Curran, J., Hayashi, K., Iyengar, S., Jones, P. K., Mazzoleni, G., Papathanassopoulos, S., Rhee, J. W., Rowe, D., Soroka, S., & Tiffen, R. (2016). Why are "others" so polarized? Perceived political polarization and media use in 10 countries. *Journal of Computer-Mediated Communication*, *21*(5), 349–367. https://doi.org/10.1111/jcc4.12166

Zahavi, D. (2015). You, me, and we: The sharing of emotional experiences. *Journal of Consciousness Studies*, 22(1–2). http://www.ingentaconnect.com/contentone/imp/jcs/2015/00000022/F0020001/art00007