Navigating the Social World: Toward an Integrated Framework for Evaluating Self, Individuals, and Groups

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Social evaluation occurs at personal, interpersonal, group, and intergroup levels, with competing theories and evidence. Five models engage in adversarial collaboration, to identify common conceptual ground, ongoing controversies, and continuing agendas: Dual Perspective Model (Abele & Wojciszke, 2007); Behavioral Regulation Model (Leach, Ellemers, & Barreto, 2007); Dimensional Compensation Model (Yzerbyt et al., 2005); Stereotype Content Model (Fiske, Cuddy, Glick, & Xu, 2002); and Agency-Beliefs-Communion Model (Koch, Imhoff, Dotsch, Unkelbach, & Alves, 2016). Each has distinctive focus, theoretical roots, premises, and evidence. Controversies dispute dimensions: number, organization, definition, and labeling; their relative priority; and their relationship. Our first integration suggests 2 fundamental dimensions: Vertical (agency, competence, "getting ahead") and Horizontal (communion, warmth, "getting along"), with respective facets of ability and assertiveness (Vertical) and friendliness and morality (Horizontal). Depending on context, a third dimension is conservative versus progressive Beliefs. Second, different criteria for priority favor different dimensions: processing speed and subjective weight (Horizontal); pragmatic diagnosticity (Vertical); moderators include number and type of target, target-perceiver relationship, context. Finally, the relation between dimensions has similar operational moderators. As an integrative framework, the dimensions' dynamics also depend on perceiver goals (comprehension, efficiency, harmony, compatibility), each balancing top-down and bottom-up processes, for epistemic or hedonic functions. One emerging insight is that the nature and number of targets each of these models typically examines alters perceivers' evaluative goal and how bottom-up information or top-down inferences interact. This framework benefits theoretical parsimony and new research.

Keywords: agency, communion, competence, morality, warmth

People constantly evaluate themselves, other individuals, their own groups, and other groups in society. This is arguably functional for guiding behavior, even for surviving and thriving. People decide who might benefit or harm them and react accordingly. People evaluate others with different goals, variously focused on accuracy, inclusion, esteem, comparison, interaction, and more. Social evaluation applies to society—as people form images of immigrants and hosts, sexual harassers and victims, environmental activists and climate-change skeptics—fueling political polarization. Evaluation also guides everyday encounters with doctors, baristas, colleagues, friends, bosses, role models, and prospective partners. Evaluative dimensions guide the way people organize and feel about social information, for acting on it.

Thus, a key question in psychology is how people distinguish among other people, to guide their responses to them. As traced back to ancient philosophical thinking (for an overview, see Mar-

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key, 2002), social evaluation is not just one dimensional, good versus bad, but at least two dimensional. Following the classic view, people distinguish between task and social-emotional dimensions in evaluation, assessing their own and others' capacity, as well as interpersonal or intergroup virtues. Accordingly, a long tradition distinguishes two basic functions of behavior and consequently its interpretation, namely accomplishing tasks and forming bonds. Social and personality psychology joined that tradition, and the current work acknowledges those precedents, which the final section will review and link with our newly integrated framework.

We concentrate first on five social-psychological models of social evaluation: the Dual Perspective Model (Abele & Wojciszke, 2007), the Behavioral Regulation Model (Leach et al., 2007), the Dimensional Compensation Model (Yzerbyt et al., 2005), the Stereotype Content Model (Fiske et al., 2002), and the Agency-Beliefs-Communion Model (Koch et al., 2016). Each has its own history, distinct emphasis, and supportive research program. Moreover, discrepancies between predictions made by these five models have appeared in the current social perception literature. And our models are not the only ones. Despite the empirical validity of all these models, researchers and practitioners easily become confused because they have to choose one specific model—thereby implicitly rejecting other models. This ambiguity impedes scientific progress. One might ask why psychology needs so many models of social evaluation. Our goal is to find the common threads.

Proponents of the five social-evaluation models gathered to write this article, despite being adversaries (for an account of our methods of diplomacy, see Ellemers, Fiske, Abele, Koch, & Yzerbyt, 2020). The five models should be compatible, as they all focus on people's perception of social targets. Comparing them helps to identify commonalities, controversies, and perspectives toward an integrated framework that generates novel research questions. Here, after briefly describing the five specific models, we identify three main controversies among them: the number, definition, organization, and labeling of dimensions; the relative priority of dimensions; and the relationship among them. The newly developed integrated framework both addresses these controversies and points to yet-unresolved issues, developing new, testable predictions.

Adversarial Collaboration

Crisis in science concerns not only methods and statistics but also theory development (Ellemers, 2013; Ellemers et al., 2020; Fiedler, 2017; Fiske, 2006; Kruglanski, 2008; Mischel, 2006). Normally, theories compete, and some lose, incentivizing destructive critique of competing views. Scientific publications about theoretical ideas and empirical results often reward arguments to specify the distinct contribution of each incremental development. However, finding common ground in competing theories may also advance science. This article's effort to integrate the models' different insights is also a way to overcome crisis, to achieve scientific progress, and to offer new ways of thinking. As a constructive response to contradictory data, adversarial collaboration (Kahneman, 2003) proposes to integrate seemingly incompatible empirical results. Here, we illustrate that adversarial collaboration can also work with competing conceptual frameworks.

Five Models for Navigating the Social World

The five models range from the more micro, intrapersonal level, to the macro, societal level (see Table 1).

The Dual Perspective Model

The Dual Perspective Model (DPM; Abele & Wojciszke, 2007, 2014, 2018) focuses on individual self- and interpersonal evaluations. It distinguishes two main dimensions (Agency and Communion). Agency refers to qualities relevant for goal attainment ("getting ahead"; Hogan, 1983), such as being assertive or capable, whereas Communion refers to qualities relevant for social relationships ("getting along"; Hogan, 1983), such as being friendly or fair. These fundamental dimensions each distinguish two facets. Agency's facets are assertiveness and ability (originally labeled "competence"; Abele et al., 2016); Communion's facets are friendliness (originally labeled "warmth"; Abele et al., 2016) and morality. As confirmatory factor analyses have shown, English, French, German, Polish, and Chinese all differentiate these facets (Abele et al., 2016; see example operationalizations in Table 1).

The model makes four key predictions (see Table 1), all tested using varied methods and measures (see Abele & Wojciszke, 2014, 2018).

Priority of communion. In social interactions, Communion has priority, because from an evolutionary perspective, social relationships are indispensable for both actors and observers. From a functional point of view, perceiving others serves to find out their benevolent or malevolent intentions (Abele & Bruckmüller, 2011, 2013).

Perspective determines dimension relevance. Regarding others, people are first concerned with their benevolent or malevolent intentions, evaluated on the Communion dimension with the facets of friendliness and morality. Regarding the self, people are first concerned with their progress in goal pursuit, which is evaluated on the Agency dimension with the facets of ability and assertiveness (Abele, Bruckmüller, & Wojciszke, 2014; Abele & Wojciszke, 2007; Wojciszke, Abele, & Baryla, 2009).

Power and interdependence moderate perspective differences in social evaluation. Evaluation of others on agency becomes more important with increasing interdependence (Abele & Brack, 2013; Wojciszke & Abele, 2008).

Distinguishing facets of Agency and Communion helps to refine the predictions. Among the facets, self-esteem relates more to the assertiveness facet than the ability facet, and it relates somewhat to the morality facet, but not to the friendliness facet (Abele & Hauke, 2018, 2019; Abele et al., 2016). Positive evaluation of others relates more to Communion than Agency (Wojciszke, Baryla, Parzuchowski, Szymkow, & Abele, 2011); but distinguishing the facets, evaluation relates more to the morality than the friendliness facet, and more to the ability than the assertiveness facet (Abele & Hauke, 2019). People feel more reputation threat from attacks on their morality than their friendliness, and they feel more identity threat from attacks on their assertiveness than their ability (Hauke & Abele, 2019, 2020).

The Behavioral Regulation Model

The Behavioral Regulation Model (BRM; Ellemers, 2017; Ellemers & Van den Bos, 2012) considers individuals in terms

Table 1

Fundamental Dimensions in the Five Models—Definition, Examples of Operationalization, Stimuli, and Typical Questions

Model (Author)	Conceptual definitions	Operational examples	Stimuli used	Typical question
Dual Perspective Model (DPM) (Abele et al.)	Agency indicates "getting ahead" Facets: Assertiveness Ability; Communion indicates "getting along" Facets: Friendliness Morality	Assertive, confident; Competent, efficient; Friendly, sociable; Trustworthy, sincere	In real interactions or considering self and specific others	"To what extent do you describe yourself [person X] or your [person X's] behavior as . . ."; "How important is . . . for you [person X]"
Behavioral Regulation Model (BRM) (Ellemers et al.)	Competence indicates performance; Morality indicates intentions; Sociability indicates demeanor	Intelligent, skilled; Honest, sincere; Sociable, friendly	For one or two natural or experimental groups	"To what extent do you think members of [your group] are. . ."; "How important is it for members of [your group] to be . . ."
Dimensional Compensation Model (DCM) (Yzerbyt et al.)	Warmth indicates getting along (sociability and morality); Competence indicates getting ahead (ability and motivation)	Warm, sincere; Competent, ambitious	For pairs of natural or experimental groups	"To what extent do you [members of your group] view members of this group as . . ."
Stereotype Content Model (SCM) (Fiske et al.)	Warmth indicates intent; Competence indicates ability to enact intent	Friendly, sincere; Capable, confident	For each group in a list ~ 12 societal groups	"To what extent do most [Americans] view members of this group as . . ."
Agency Beliefs Communion (ABC) Model (Koch et al.)	Agency indicates high SES; Beliefs indicate conservatism versus progressiveness; Communion indicates fit with own values and goals	Dominant, status; Traditional-modern; Trustworthy, likable	For each group in a list ~40 societal groups	"How . . . . versus . . . do you think are members of these groups?"

Note. SES = social economic status.

of their group-based self (Ellemers, 2012). Individual behavioral choices relate to group-based concerns, such as the desire to be respected and valued as a good group member, to understand how the ingroup differs from relevant outgroups, and to take pride in one's group(s) (see Table 1). In the BRM, dimensions for social evaluation convey individual and group virtues that contribute to these goals. The BRM defines Morality (deep-level intentions, e.g., trying to do what is ethically right), Sociability (surface-level demeanor, e.g., acting in a friendly manner), and Competence (likelihood of task achievement) as distinct human virtues (Leach, Bilali, & Pagliaro, 2015; Leach et al., 2007). The BRM makes three key predictions, supported by research.

Morality indicates human "goodness." Of the dimensions, Morality reveals people's true character (Goodwin, Piazza, & Rozin, 2014; Pagliaro, Ellemers, Barreto, & Di Cesare, 2016). Information about Morality should weigh more than Sociability or Competence in overall judgments of individuals and groups, determining people's willingness to trust, help, include, or depend on others (Brambilla & Leach, 2014; Brambilla, Sacchi, Pagliaro, & Ellemers, 2013).

The group's morality is a key source of group pride and identification. Morality should be the most important virtue for ingroups, affording ingroup pride and identification. Morality is the main dimension for distinguishing ingroup from various outgroups (Leach et al., 2007). Morality (rather than Competence or Sociability) is the most important source of attraction for individuals (when deciding whether they want to belong to a given group, team or organization; Van Prooijen & Ellemers, 2015; Van Prooijen, Ellemers, Van der Lee, & Scheepers, 2018) and for groups (when deciding whether to include newcomers; Ellemers, 2017; Pagliaro, Brambilla, Sacchi, D'Angelo, & Ellemers, 2013; Van der Lee, Ellemers, Scheepers, & Rutjens, 2017).

Behavioral adaptation to moral ingroup norms communicates loyalty and earns respect. People feel threatened when their morality is questioned (Kouzakova, Ellemers, Harinck, & Scheepers, 2012; Van der Lee et al., 2016). They can pledge loyalty to the group and earn respect by behaving in ways that the group considers moral (Ellemers & Van der Toorn, 2015; Pagliaro, Ellemers, & Barreto, 2011). People should pay more attention to moral ingroup than outgroup guidelines (Ellemers, Pagliaro, Barreto, & Leach, 2008; Van Nunspeet et al., 2014) and invest more in behaviors that make them seem moral than to seem smart or friendly (Ellemers et al., 2008; Ståhl & Ellemers, 2016; Van Nunspeet, Ellemers, & Derks, 2015).

The Dimensional Compensation Model

The Dimensional Compensation Model (DCM; Kervyn, Yzerbyt, & Judd, 2010; Yzerbyt, 2018; Yzerbyt et al., 2005) combines social cognition and social identity research to unpack comparison between groups (but also individuals; see Table 1). Two fundamental dimensions, Warmth and Competence, underlie social evaluation (Asch, 1946; Brown, 1986; Rosenberg, Nelson, & Vivekananthan, 1968; see SCM). Social identity describes how groups secure a positive self-view, easier for higher-status (competent) groups. With social creativity (Lemaine, 1974; Mummendey &

Schreiber, 1983), groups claim dimensions less relevant to the hierarchy. Hence, DCM predicts:

People comparing two targets compensate the two dimensions. In two-group comparisons, people judge the powerful more Competent than Warm, and reverse for the less powerful, resulting in mixed, ambivalent, stereotypes (Yzerbyt et al., 2005; for reviews, Yzerbyt, 2016, 2018). DCM predicts compensation for observers and group members, for real groups (Yzerbyt et al., 2005, 2008; see also Cambon & Yzerbyt, 2017, 2018; Cambon, Yzerbyt, & Yakimova, 2015; Yzerbyt, & Cambon, 2017) and fictitious groups (Judd, James-Hawkins, Yzerbyt, & Kashima, 2005; Kervyn et al., 2010). Compensation appears in the aggregate and often in individual negative correlations between judged Warmth and Competence (e.g., Yzerbyt & Cambon, 2017). Compensation is unique to the two fundamental dimensions (Yzerbyt et al., 2008), appears on direct and indirect measures (Kervyn, Yzerbyt, & Judd, 2011; Schmitz, Vanbeneden, & Yzerbyt, 2019; Schmitz & Yzerbyt, 2019), and emerges for individual targets (Kervyn, Judd, et al., 2009).

Group characterizations are fluid (comparative and context-based), but the two dimensions are not equally malleable. Which dimension best characterizes a group rests on comparative and normative fit (Oakes, Haslam, & Turner, 1994). A group comes across as more Competent than Warm, or the reverse, depending on the comparison situation (Cambon et al., 2015; Kervyn, Yzerbyt, Demoulin, & Judd, 2008; Yzerbyt & Cambon, 2017). Because Competence rests on realities of power, status, and resources (Hornsey, 2008; Yzerbyt & Corneille, 2005), it is more objective, more consensual, and less flexible than Warmth (Yzerbyt & Cambon, 2017). So, Warmth inferences show more ingroup bias and more polarization (Yzerbyt, 2018).

Compensation has boundary conditions and underlying mechanisms. Illegitimate status differences and conflict prevent compensation (Cambon et al., 2015; for a review, Yzerbyt, 2018). Moreover, compensation depends on vantage point. For observers, compensation flows from structural constraints and justice concerns. For insiders, status differs: Low-status groups' compensation searches for positive distinctiveness and social creativity; high-status groups' compensation follows nondiscrimination norms, "noblesse oblige," and strategic concerns (Cambon & Yzerbyt, 2018; Yzerbyt, 2018; Yzerbyt & Cambon, 2017).

The Stereotype Content Model

The Stereotype Content Model (SCM) focuses on the distinct images, prejudices, and discrimination directed toward different societal groups (Fiske et al., 2002; see Fiske, 2018 for more citations), depending on their positive or negative intent (Warmth) and whether they can enact it (Competence). Groups array in Warmth-by-Competence space, as participants report societal beliefs (see Table 1). Findings generalize to about 50 countries (Bai, Ramos, & Fiske, 2020; Cuddy et al., 2009; Durante et al., 2017, 2013), retroactively to the 1930s (Bergsieker, Leslie, Constantine, & Fiske, 2012; Durante, Volpato, et al., 2010), for both groups and subgroups (see Fiske, 2018), for nonhuman intent-having entities (animals, Sevillano & Fiske, 2016; corporations, Kervyn, Fiske, et al., 2012), and in spontaneous, open-ended, as well as structured, scaled reports (Nicolas, Bai & Fiske, 2020a, 2020b). The model's key predictions follow.

Stereotypes are not only unidimensional but also mixed. In most societies, the middle class and citizens appear both warm and competent. In contrast, refugees and homeless people seem neither friendly and trustworthy, nor capable and agentic. The intergroup relations literature has long contrasted such ingroup or reference-group favoritism against outgroup derogation. The SCM innovated mixed, ambivalent stereotypes, for example: Globally, elderly people and disabled people seem warm but incompetent. World-wide, rich people and entrepreneurs appear competent but cold.

Perceived interdependence predicts Warmth; perceived status predicts Competence. Competition over both resources and values correlates negatively with perceived Warmth. Status correlates even more highly with perceived Competence, an almost universal endorsement of meritocracy.

Distinct emotions and behaviors follow from distinct warmth-competence combinations. Illustrating their respective clusters: Middle-class evoke pride; homeless trigger disgust; elderly get pity; and rich provoke envy. These emotional prejudices in turn predict discriminatory behavior. Being subjectively more important, Warmth predicts active help or harm; Competence predicts passive associating or neglecting.

SCM dimensions apply to society and to interpersonal interactions. Compatible findings emerge in dyadic interpersonal experiments on impression formation and interaction strategies (Dupree & Fiske, 2019; Russell & Fiske, 2008; Swencionis & Fiske, 2016, 2018). Individual neuro-imaging and psychophysiology assess personal response to photographs of exemplars from each cluster, supporting dehumanized disgust toward low-low groups (Harris & Fiske, 2006, 2007), envy toward competent but cold groups (Cikara & Fiske, 2012), and individuating attention toward ingroups (Ames & Fiske, 2013; Ruscher, Fiske, Miki, & Van Manen, 1991); pity toward disability is suggestive (Wu & Fiske, 2020).

Societal variables also predict use of the SCM space: The full array of four quadrants best typifies more unequal countries with moderate peace-conflict (Durante et al., 2017, 2013). Also, the fully dispersed pattern occurs in less-diverse places where people differentiate outgroups they have never met (Bai et al., 2020). As people habituate to diversity, the SCM dispersion shrinks and shifts everyone toward the ingroup melting pot.

The Agency-Beliefs-Communion (ABC) Model

The Agency-Beliefs-Communion (ABC) Model (Koch et al., 2016) describes people's evaluative dimensions for groups, making four claims.

People spontaneously evaluate groups' Agency, Beliefs, and Communion. For ecological validity (Brunswik, 1955), people rated the most frequently listed U.S. groups on their similarity, without further instructions. Next, people rated the groups on several dimensions that served as hypotheses about how they had construed the groups' similarity. Predicting the ambiguous similarity ratings from the unambiguous dimension ratings, the model reverse-engineered people's spontaneous three dimensions used to construe groups' similarity: Agency/socioeconomic success (A), Beliefs (B) from conservative to progressive, and Communion (C). This model (Koch & Imhoff, 2018) generalized to spontaneously evaluated German groups (Koch et al., 2016), U.S. and international job holders (Imhoff,

Koch, & Flade, 2018), and residents of U.S. mainland states (Koch, Kervyn, et al., 2018).

People infer groups' Communion from perceived self-group similarity in Agency and Beliefs. The correlations between groups' rated Agency and Communion, and between Beliefs and Communion, were small but variable across raters. Perceiver-target similarity's links to perceived communion (Byrne, 1971) explains this variation. Indeed, the correlation between the groups' rated Agency and Communion was larger and positive for people who saw the self as agentic, but larger and negative for people who saw the self as nonagentic. Similarly, the correlation between evaluations of the groups' progressive Beliefs and Communion was larger and positive for people who saw the self as progressive, but larger and negative for people who saw the self as conservative. That is, evaluations of the groups' Communion increased with rated self-group similarity in Agency and Beliefs (Koch, Imhoff, et al., 2020).

Evaluations of Agency and Beliefs are more consensual than for Communion. As evaluations of groups' Communion increased with evaluations of self-group similarity in Agency and Beliefs, people who differed in self-evaluated Agency and Beliefs disagreed about groups' Communion. The ABC model confirmed this lack of consensus for Communion and higher consensus on Agency and Beliefs in four countries: the United States, Germany, India, and South Africa. People apparently structured society spontaneously and consensually based on the groups' influence (Agency) and ideology (Beliefs). In contrast, people spontaneously and personally evaluated groups' Communion to navigate society: approaching/cooperating (vs. avoiding/competing) with groups evaluated as high (vs. low) in communion (Koch, Imhoff, et al., 2020).

Intergroup cooperation increases with perceived self-group similarity in Agency and Beliefs. People transferred more money to (cooperated with) members of groups they evaluated as more similar to self in Agency and Beliefs (Koch, Dorrough, Glöckner, & Imhoff, 2020)—even when controlling for shared group membership. And evaluations of groups' Communion mediated the effect of perceived self-group similarity in Beliefs on cooperation in the incentivized prisoner's dilemma game.

Theoretical Conflict

Comparing these models, we identified three primary theoretical controversies: the number, organization, definition, and labels of social evaluative dimensions (Controversy 1); the possible priority of one dimension (Controversy 2); and the relation between the dimensions (Controversy 3; see Table 2).

Controversy 1: Number, Organization, Definition, and Labels of Dimensions

The DPM, SCM, and DCM agree that the number of focal dimensions is two. DPM labels them Agency versus Communion; SCM and DCM label them Competence versus Warmth. The operationalizations (see Table 1) reveal that, despite these different labels and nuances, the focal dimensions of these three models are by and large comparable.

The DPM opted to divide its two dimensions into two subdimensions or facets each, thus postulating and testing a two-level

Table 2

Controversies: (1) Number, Labels, and Organization of Focal Dimensions, (2) Dimensional Priority, (3) Relation Between Dimensions

Model	Controversy 1 number, labels, and organization of focal dimensions	Controversy 2 dimensional priority	Controversy 3 relation between dimensions
DPM	2: Agency & Communion Hierarchy: Two facets for Agency (ability & assertiveness) two facets for Communion (morality & friendliness)	Generally: Communion before Agency Perspective: Communion before Agency for others, Agency before Communion for the self	Positive relation for ratings of others; orthogonal relation for ratings of self
BRM	3: Morality, Sociability, Competence Simple structure	Morality always before Sociability & Competence	Orthogonal relation between Morality, Sociability, and Competence for ratings of ingroup members
DCM	2: Competence & Warmth Simple structure	Competence mostly (not always) before Warmth	Negative relation between Warmth & Competence in comparing groups when there is no strong conflict and a moderate difference of status
SCM	2: Competence & Warmth Simple structure	Warmth matters most Competence easier to detect & report	Typically: Orthogonal relation of groups' Warmth & Competence; but positive for very equal, peaceful societies and for very conflictual ones
ABC	3: Agency/Socio-economic status, Beliefs & Communion Temporal structure: Communion from target-perceiver similarity in Agency/SES or Beliefs	Agency/SES & Beliefs before Communion	Orthogonal relation between Agency/ SES & Beliefs in rating groups; relation between these two and Communion varies

Note. DPM = Dual Perspective Model; BRM = Behavioral Regulation Model; DCM = Dimensional Compensation Model; SCM = Stereotype Content Model; ABC = Agency Beliefs Communion Model; SES = social economic status.

hierarchy of dimensions (Abele, Cuddy, Judd, & Yzerbyt, 2008; Abele et al., 2016). The SCM and DCM had not formally subdivided and hierarchically structured their two dimensions. However, as the operationalizations in Table 1 show, both models often included items tapping the two facets identified by Abele and colleagues (2016).

The BRM posits three orthogonal dimensions, Competence, Sociability, and Morality (Leach et al., 2007). Competence and Sociability are comparable with Competence/Agency and Warmth/ Communion in DPM, SCM, and DCM (see operationalizations in Table 1). BRM Morality is comparable with DPM facet of Morality (see Table 1). However, BRM conceptualizes Morality as a focal dimension, whereas DPM conceptualizes it as a facet of Communion.

The ABC model (Koch et al., 2016) also distinguishes three focal dimensions. Two of them, its Agency and Communion, are comparable with the focal dimensions of DPM, SCM, and DCM. ABC does not consider morality, but some operationalizations of Communion fit the Morality dimension. The third focal dimension of ABC, the Beliefs dimension, is unique and does not show up in the other models. Moreover, ABC posits that Communion derives from Agency and Beliefs. This temporal organization conflicts with all other models. Moreover, whereas the operationalization of Communion is similar to the other models, the operationalizations of Agency and Beliefs are more distinct.

Controversy 2: Which Overarching Dimension Has Priority?

The models disagree about which dimension has priority (see Table 2). The DPM (Abele & Wojciszke, 2007, 2014) argues that people prioritize the Communion dimension to get along with others. Evidence for faster recognition, categorization, and inference of information about Communion (vs. Agency) supports this claim (Abele & Bruckmüller, 2011).

The SCM (Fiske, 2018) argues that perceivers prioritize information about Warmth to learn others' intent, and only then seek information about Competence to learn whether these others can enact their intent. Theoretically, the DPM and SCM agree on typical priorities for evaluating others: Communion (DPM) and Warmth (SCM). But the SCM had never tested this premise. At the same time, SCM-related theory and research (power as control; Fiske, 1993) support the other priority: people attend to high-status, high-Competence others because they control resources. By this logic, perceivers might prioritize Competence, and attend to Warmth only for Competent targets because they matter more. So the SCM has unresolved priorities.

For the BRM's intragroup judgments of the self and others to guide respect, inclusion, helping, and norm adherence, and to determine group identification and pride, the model argues that

Morality is generally more important than Sociability and Competence (Ellemers, Pagliaro, & Barreto, 2013). BRM was able to orthogonally manipulate high versus low standing on these three dimensions (Brambilla et al., 2013; Leach et al., 2007) to assess weight of their effects on downstream responses, independent of valence. Thus, the BRM partly conflicts with the DPM and SCM, in focusing on one Warmth/Communion facet, Morality. Research into DPM's facets showed that perceiving others as moral is important for evaluating them positively, but perception on ability and friendliness (not assertiveness) is as important (Abele & Hauke, 2019), thus partly conflicting with BRM, in focusing on three facets rather than just one.

The DCM assumes that a legitimate social hierarchy often imposes itself, implying that Competence comes first. Judgments on Warmth then compensate the less competent group, to create harmonious relationships between groups (Cambon & Yzerbyt, 2018). People can compensate Competence when Warmth is the most salient or only available information (Judd et al., 2005; Yzerbyt et al., 2008). More typically, however, status differences between groups are large, stable, and legitimate, so Competence receives priority. In addition, Competence, especially its Assertiveness facet, proves less malleable than Warmth (Yzerbyt & Cambon, 2017). The DCM therefore conflicts with the DPM and partly with the SCM on which dimension has priority.

The ABC model posits and finds that people evaluate groups perceived as more similar to the self on Agency and Beliefs as higher on Communion; similar Beliefs carry more weight than similar Agency in determining Communion. The reverse inferences are smaller in effect size (Koch, Imhoff, et al., 2020), so Agency and Beliefs take precedence over Communion. Thus, by arguing for two instead of just one prioritized dimension, with the Beliefs dimension not appearing in any of the other models, the ABC model is in conflict with all models on dimensional priority. Under the assumption that Communion, Warmth, and Morality (DPM's, SCM's, and BRM's priorities, respectively) are more related to each other than to Competence (DCM's priority dimension) and Agency, the ABC has less conflict on dimensional priority with the DCM than with the others.

Controversy 3: How Do the Dimensions Relate?

Conceptually, the focal dimensions of social evaluation are independent, and scales measuring these dimensions are constructed as being orthogonal (Abele et al., 2016; Abele & Wojciszke, 2007; Fiske et al., 2002; Leach et al., 2007). However, in rating specific targets, the relation between dimensions can be orthogonal, but also positive, negative, or curvilinear (inverted U–shaped). The five models thus differ in their dimensions' observed relations, another major controversy (see Table 2).

The dominant view has long been that motivation for evaluative consistency influences social judgment (Asch, 1946; Heider, 1958; Osgood, Suci, & Tannenbaum, 1957; Rosenberg & Hovland, 1960), such that the correlations among rated capability, assertiveness, friendliness, and honesty should all be positive. This found support in the widely documented halo effect (Bruner & Tagiuri, 1954; Kelley, 1950; Thorndike, 1920). For instance, when observers see a person as beautiful, they see this person as good on other dimensions (Dion, Berscheid, & Walster, 1972; Wheeler & Kim, 1997).

The DPM also found positive correlations of Agency and Communion when specific others were evaluated. However, evaluations of the self on agency and communion were barely correlated—and evaluations of close others were also less correlated than those of more distant others (Abele, 2003; Abele & Wojciszke, 2007).

The SCM (Fiske, 2018; Fiske et al., 2002) builds on similar and other work (Glick & Fiske, 1996; Phalet & Poppe, 1997; Reeder & Brewer, 1979) to stress the pragmatic concerns of perceivers as they navigate the social world. It posits that people perceive groups and individuals to vary on both Competence and Warmth, and also provides a straightforward account for observers often appraising social targets in ambivalent, rather than univalent, ways (Cuddy et al., 2009; Durante et al., 2017, 2013). The SCM finds orthogonality in (a) the most unequal societies, where alienated groups have to live together, and the ambivalence explains that some are more deserving than others. However, the SCM also finds a positive relation between Competence and Warmth in (b) the most equal societies where almost everyone joins the societal ingroup (except for a few outcasts), in (c) the most peaceful societies, which overlap almost entirely with the equal ones, and in (d) the most conflict-ridden countries that have stark us-them divisions (Durante et al., 2017). Thus, orthogonality and the presence of ambivalence (mixed) judgments occurs most often in more unequal countries and those intermediate on the peace-conflict continuum. In sum, the DPM and SCM disagree about why the relation between their two focal dimension is positive or orthogonal (different levels of closeness or familiarity in the DPM vs. different levels of societal inequality and conflict in the SCM).

Studying people's evaluation of their ingroup's Morality, Sociability, and Competence, the BRM finds low correlations among these dimensions (Leach et al., 2007). The BRM therefore partly conflicts with the DPM and SCM, which also find positive relations—but partly agrees with them in finding that Competence can be orthogonal to the other two.

Evidence also supports a negative relation between Warmth and Competence, as shown in DCM's tradeoffs (Yzerbyt, 2016, 2018). The unmistakable reality of hierarchy (i.e., significant and legitimate status differences between groups; Tajfel & Turner, 1979) defines Competence differences, which then reverses positions on the Warmth dimension (Judd et al., 2005; Yzerbyt et al., 2005). This compensation (tradeoff resulting in ambivalence) occurs most in unequal social arrangements or even societies that achieve stability (Cambon et al., 2015; Durante et al., 2017, 2013). This is inconsistent with the DPM (positive or orthogonal relation between Agency and Communion), SCM (positive or orthogonal relation between Competence and Warmth), and BRM (orthogonal relation of Competence with Morality and Sociability; orthogonal or slightly positive relation of Morality and Sociability).

The ABC model adds some more heat to this debate. The favorable impression of a group on the Communion dimension increases with perceived similarity between that group and the self on Agency. Because of individual differences in Agency, this produces three different patterns of Agency-Communion relations. Perceivers high on Agency view similar (high-Agency) others as more compatible, creating a positive relation between targets' Agency and Communion. Perceivers low on Agency view others as more compatible, the lower their Agency, creating a negative relation between targets' Agency and Communion. And for per-

ceivers moderate on Agency, an inverted U–shaped relation results, because others become less compatible, the less similar their Agency, in either direction away from the middle. Likewise, depending on the perceiver's (conservative-progressive) Beliefs, the ABC model also finds a positive, negative, or inverted u-shaped relation between targets' Beliefs and Communion. Finding inverted u-shaped relations is inconsistent with all other models, and no other model finds both positive and negative relations. In addition, the ABC model does not find orthogonality.

Adversarial Collaboration on Theory

Here, we integrate the five models with respect to the controversies just delineated. Integration means that some controversies can be resolved based on a closer look at the models and their research questions and methodologies per se. However, integration also means noting controversies that we are unable to resolve at this point, pending more data. And finally, integration creates a broader framework into which these models can—at least partly—combine.

Integration 1: Number, Organization, Definition, and Labels of Dimensions

A plethora of research claims that two is the number of focal social evaluative dimensions that generalize across place, level, domain, and time. This generality makes sense if two dimensions are adaptive for social interaction (Abele & Wojciszke, 2014, 2018; Fiske, 2018; Ybarra et al., 2008). However, as Controversy 1 noted (see Table 2), across these five models, the number of dimensions is variously two, three, or four.

Reflecting one common dimension, DPM explicitly defines Communion as including facets of friendliness and morality, validated across languages (Abele et al., 2008; Abele et al., 2016; Abele & Hauke, 2019; Hauke & Abele, 2019, 2020). SCM and DCM do not explicitly distinguish between these facets of their focal dimensions, but their operationalizations do contain them, and they increase predictive validity (Fiske, 2018; Yzerbyt, 2018; see also Carrier, Louvet, Chauvin, et al., 2014; Carrier, Louvet, & Rohmer, 2014; Kervyn, Fiske, & Yzerbyt, 2015); Warmth has also proved valid in many languages (Fiske & Durante, 2016). BRM's distinction between Sociability and Morality (Leach, Carraro, Garcia, & Kang, 2017; Leach et al., 2007) resembles the facets of friendliness and morality of the Communion dimension in the DPM. In the ABC model, Communion contains traits that define Morality as well as Sociability/Warmth in the other models. Thus, Communion/Warmth/Morality + Sociability is an essentially shared dimension.

As to the other common dimension, four concepts recur: competence, ability, assertiveness, and status, but no one model previously integrated all of them. For the BRM, Competence refers only to ability, not assertiveness and not status (see Table 1). The SCM Competence also refers only to ability, not assertiveness, but SCM posits that structural status predicts perceived Competence. DPM, DCM, and BRM define Competence independently of status and power. The ABC model combines status and power with assertiveness in its definition of Agency/Socioeconomic success (Koch et al., 2016). This partly resonates with the DPM Agency dimension distinguishing ability and assertiveness, and it resonates

with the way the DCM operationalizes Competence (cultured, intelligent and prestigious, ambitious; Yzerbyt et al., 2005). Also, like the SCM, in the DCM, perceived status as a group's socio-structural position is independent of, but strongly predicts, the group's perceived Competence (Cambon & Yzerbyt, 2017; Fiske & Durante, 2016).

To resolve confusion regarding these dimensions defined and measured similarly but labeled differently (see operational definitions in Table 1), and to convey that no model can argue that their set of dimension labels is generally more suitable, we propose novel, integrative labels for two focal dimensions of social evaluation (see Table 3). Specifically, we propose *Vertical* ("getting ahead," up the status hierarchy) to integrate Agency (DPM and ABC model) and Competence (SCM, DCM, and BRM). Likewise, we propose *Horizontal* ("getting along" with peers) to integrate Communion (DPM and ABC model), Warmth (SCM and DCM), Morality (BRM), and Sociability (BRM).

The Vertical dimension relates to evaluation of status, prestige, esteem, power, and skill (Abele & Hauke, 2018, 2019; Abele & Wojciszke, 2007; Carrier, Louvet, Chauvin, et al., 2014; Carrier et al., 2014; Fiske, 2010; Koch et al., 2016; Wojciszke & Abele, 2008). We label this dimension Vertical because it indicates the relative rank and hierarchical position of social targets, who can move upward or downward. This verticality fits embodied power and status as running from physically high to low (Mahieu, Corneille, & Yzerbyt, 2014; Schubert, 2005).

The Horizontal dimension relates to benevolence, trust, cooperation, liking, belief compatibility/similarity, and value sharing (Abele et al., 2016; Abele & Wojciszke, 2007, 2014; Ames & Fiske, 2013; Brambilla & Leach, 2014; Brambilla & Leach, 2014; Brambilla, Sacchi, Rusconi, Cherubini, & Yzerbyt, 2012; Carrier, Mierop, et al., 2019; Ellemers et al., 2013; Leach et al., 2007; Pagliaro et al., 2016; Wojciszke et al., 2011). We label this dimension Horizontal because it indicates the willingness of targets to approach and depend on each other when forming social relationships, moving closer together (or further apart) irrespective of hierarchy. This interdependence contrasts cooperation among peers, tending toward equality (all share) versus competition among rivals, which tends toward inequality (zero-sum, winners and losers; Fiske & Bai, 2020).

Further, we propose dividing the superordinate dimension Vertical into the subordinate facets ability and assertiveness and

Table 3
Shared Dimensions of Social Evaluation

Dimension	Vertical	Horizontal
Generic labels	Agency	Communion
	Competence	Warmth
Facets	Assertiveness	Friendliness
	Ability	Morality
Correlates	Power	Benevolence
	Status	Trustworthiness
	Prestige	Cooperativeness
	Class	Belief compatibility
	Skill	Value sharing
	Influence	Resource-sharing
	Effectiveness	Equality

dividing the superordinate dimension Horizontal into the subordinate facets morality and friendliness (see Table 3) as proposed in the DPM (Abele et al., 2016; see also Abele et al., 2008). Not just the SCM and DCM, but also the BRM, are potentially covered by this facet proposal. First, the BRM considers Competence as a focal dimension, and its description of Competence is comparable with the ability facet of the Vertical dimension explicitly advanced in the DPM, and advanced by items used in SCM and DCM research. Further, the BRM considers Morality and Sociability as separate dimensions, but it nevertheless argues that they belong to the more general dimension of "socially good" (Leach et al., 2007). Studies find that Morality and Sociability covary slightly more than either does with Competence, which supports the proposed facet logic.

Although measurement of the two focal dimensions without facets often satisfies empirical demands (see SCM and DCM research and parts of DPM research), both conceptual/psychometric research (Abele et al., 2016; Kervyn, Fiske, & Yzerbyt, 2013, 2015) and hypothesis-testing experimental research (Abele & Hauke, 2019; Carrier, Dompnier, et al., 2019; Carrier, Louvet, Chauvin, et al., 2014; Carrier et al., 2014; Hauke & Abele, 2019, 2020; Leach et al., 2007) have demonstrated that, depending on the research question, differentiating facets leads to more clear-cut results. For instance, DPM research showed that self-esteem relates primarily to the assertiveness facet of Agency and somewhat to the morality facet of Communion (Abele et al., 2016; Abele & Hauke, 2018, 2019); esteem of others relates to the morality facet, but depending on type of target also the ability facet and the friendliness facet (Abele et al., 2016; Abele & Hauke, 2019), which partly integrates with BRM predictions. However, it's an empirical question whether this will work for each model's typical settings; for example, the SCM does not find assertiveness inevitably correlating with competence in perceiving societal groups. Recent DCM work also shows different relations between these two facets depending on a series of factors (Yzerbyt, Gaubert, Louvet, Schmitz, & Carrier, 2020). As an integration of Controversy 1, nevertheless, we suggest that depending on the research question, the four facets should be either integrated into the two focal dimensions Vertical and Horizontal or measured separately.

The ABC model tolerates this integration but continues to argue that status and power should be part of the Vertical dimension and that Beliefs should be a third independent dimension. The ABC model argues that a long scientific tradition of Vertical and Horizontal dimensions of social evaluation is not fully convincing because most studies did not measure power, status, and Beliefs. Further, other dimensions overlapping with power, status, and Beliefs appear in a considerable amount of scholarly work on person and group evaluation across time and space (Brandt, 2017; Imhoff et al., 2018; Jones & Ashmore, 1973; Koch, Kervyn, et al., 2018; Louvet, Cambon, Milhabet, & Rohmer, 2019; Schwartz & Bilsky, 1990).

Research perspectives. Dimensions in addition to Vertical, Horizontal, and their facets are conceivable. First, regarding methods, a move from researchers presenting participants with dimensions to less constrained research that lets participants themselves select dimensions might increase the number of dimensions required to fully capture social evaluation. Reverse engineering similarity judgments (Imhoff et al., 2018; Koch et al., 2016) or analyses of natural language (Nicolas, Bai, & Fiske, 2020a, 2020b;

see also Abele & Bruckmüller, 2011, 2013) provide paradigms for such research on additional dimensions.

Second, the number and nature of dimensions that participants consider might be a function of their current goal: preparing for social interaction (more consideration of Horizontal [facets]), pursuing task goals (more consideration of Vertical [facets]), or formal, impartial analysis (more consideration of Beliefs), as in ABC research. We already know that when people have a relational goal, they spontaneously generate Warmth words as information to learn about another (e.g., in the neighborhood), whereas they generate more Status and Beliefs when needing to analyze groups in their nation (Nicolas, Fiske, et al., 2020). This suggests the importance of moderating variables.

Third, consideration of Horizontal, Vertical, and additional dimensions may also depend on the type of evaluation target examined (self, individuals, ingroup[s], outgroups, or societal groups), or the number of targets examined (one, two, several, many). The typical ABC method entails rating more groups (~40) than in the typical method of the SCM (~12), DCM (2), BRM (1–2), or DPM (1–2). The more groups rated, perhaps the less personal, more distal the dimensions used (the ABC model's Status and Beliefs), as compared with rating just a few groups, which allows imagining interactions (as in the other four models).

Additional dimensions may also depend on the vantage point of the self in considering different targets (DPM: self as actor or observer; BRM: the self in relation to ingroup and outgroup members; DCM: self evaluates ingroup and one or two outgroups; SCM: 12–20 target groups or individuals (including own identity groups); ABC: as many as 90 groups in relation to one another and the self). Parallel to the goals just mentioned, these target characteristics affect evaluations likely made for proximal purposes (interaction with the self, goal achievement) versus distal purposes (comparing different groups in society), and whether evaluators are likely to adopt a partisan or more neutral vantage point.

Another high-priority research perspective following from this first adversarial integration is a more in-depth analysis of the factor structure of dimensions to evaluate social targets. Specifically, combining items used in the different models with items spontaneously used by future participants in a single data set can reveal whether and when these items separate into two (Vertical, Horizontal, and their facets) or more dimensions. This approach offers scope to clarify contradictory observations and to connect results obtained in different research programs (DPM: Abele & Wojciszke, 2014; DCM: Carrier, Mierop, et al., 2019; SCM: Kervyn et al., 2015; ABC: Koch & Imhoff, 2018). Such psychometric work would allow researchers to agree on a single set of labels and operational definitions that unambiguously refer to the resulting dimensions (see Abele et al., 2016, regarding self-assessments).

To be sure, various moderators likely shape the factor structure of social evaluation, a promising avenue for continuing research. As suggested, Vertical and its facets (assertiveness vs. ability) might come to the fore when task achievement is the main goal in evaluating others and their relevance for the self (Carrier, Dompnier, et al., 2019; Fiske, 2018; Wojciszke & Abele, 2008; Yzerbyt, 2018). Focusing on Horizontal and separating its different facets (morality vs. friendliness) might prevail in those contemplating how to interact with targets (Carrier, Mierop, et al., 2019; Nicolas, Fiske, et al., 2020; Paulhus & Trapnell, 2008; Wojciszke & Abele, 2008).

In sum, studies can manipulate (a) whether perceivers evaluate the self, individuals, members of ingroups and outgroups, or entire ingroups and outgroups, (b) crossed with whether perceivers evaluate one, two, 10, or 30 targets, and (c) crossed with whether the context/goal is interacting with targets, comparing them to one another, discovering their relevance for own tasks, or something else. Dependent variables might include direct ratings of Vertical ability, Vertical assertiveness, Horizontal morality, Horizontal friendliness, Socioeconomic status, cooperative-competitive stance, and conservative-progressive Beliefs. Spontaneous information-seeking or description would allow raters to generate their own dimensions (Nicolas, Fiske, et al., 2020). Only if Vertical and Horizontal persistently take precedence over Socioeconomic success and Beliefs in more conditions of this design, will the ABC model join the DPM, SCM, DCM, and BRM in arguing that the two general dimensions of social evaluation are Vertical and Horizontal.

Summary. According to our first integration (see Table 3), endorsed by the DPM, SCM, DCM, and BRM, but not yet the ABC model, the number of social evaluative dimensions converges toward two focal ones (Vertical and Horizontal) with two facets each (Vertical: ability and assertiveness; Horizontal: morality and friendliness). The role of Socioeconomic Success as a third Vertical facet and conservative-progressive Beliefs as a third focal dimension remains an ongoing source of controversy to be resolved based on testing several moderators, as specified.

Integration 2: Priority of One Dimension

Our integration of the priority issue starts with taking a closer look at what the models use as a criterion of priority. DPM studied priority with respect to *speed of processing* of stimuli related to the focal dimensions. DPM, BRM and SCM studied the dimensions' *subjective weight* in predicting outcomes such as esteem, liking, approach versus avoidance, helping and harming, ambivalence, or group pride. DCM, ABC and also SCM used still another criterion of priority: how stable, consensual, easily reportable, or easily

observable differences on the focal dimensions are between groups. We call this *pragmatic diagnosticity* here. Distinguishing among these criteria allows better integration of findings on priority (see Table 4).

Processing speed. More than the other models discussed here, the DPM has been concerned with speed of processing the Horizontal versus Vertical dimension, hypothesizing that the Horizontal dimension is faster. Detecting, for instance, trustworthiness or aggressiveness of others in one's direct environment has—for functional reasons of self-protection—higher priority than detecting, for instance, competence or lack thereof. The DPM explicitly assumes higher speed of processing of the Horizontal dimension, owing to its general importance for evaluating danger or safety when entering social encounters. Experiments in the DPM context (Abele & Bruckmüller, 2011; Bazińska & Wojciszke, 1996) and from other labs (De Lemus, Spears, Bukowski, Moya, & Lupiáñez, 2013; Todorov, Pakrashi, & Oosterhof, 2009; Ybarra, Chan, & Park, 2001) accordingly show that—using the methodology of a lexical-decision task—information on the Horizontal dimension is both recognized faster and categorized faster (as positive or negative) than information on the Vertical dimension. Hence, Horizontal seems to have a processing advantage at an early level of information processing. Also a later level, inferring Horizontal versus Vertical from behaviors that are equally open to both interpretations, Horizontal was inferred faster (Abele & Bruckmüller, 2011). The other models have not fully addressed this criterion, but SCM has implied that perceivers first need to know others' intent (Fiske, 2018).

Subjective weight. Subjective weight reflects the importance a perceiver assigns the dimensions when evaluating a target. This differs, depending on whether the target is the self, another individual, or a group. When forming an impression of another specific individual or group—usually for interaction purposes—the DPM and BRM assign more subjective weight to assessing the Horizontal rather than the Vertical (e.g., Abele & Wojciszke,

Table 4

Integrative Framework for Evaluating Self, Individuals, and Groups: Variables

Moderators	Dimension assessments	Effects of dimension assessments
Functions 　Epistemic, hedonic	Priority of one dimension/facet on 　• Speed of processing (Horizontal) 　• Subjective weight (Horizontal) 　• Pragmatic diagnosticity (Vertical) (& Beliefs)	Emotion 　• Positive, negative 　• Pride, pity, disgust, envy
Mode 　Top-down, bottom-up	Association of Dimensions: 　• Positive	Behavior 　• Approach, avoid
Target 　Self, other individuals, ingroup, outgroups 　(Un)familiar	Single individual if unfamiliar 　　Equal, peaceful society 　　Conflictual society	• Help, harm 　• Passive, active
Perceiver–Target relation 　Power/Status, 　(Inter)dependence 　(Im)personal	• Negative 　　Comparing two targets 　• Orthogonal 　　Self	Attitudes 　• Liking 　• Respect
Number of targets 　One, two, several, many	Single individual if familiar 　　Unequal society 　　Moderate peace-conflict	
Context 　Comparative, peace-conflict, societal 　(in)equality, diversity	• Curvilinear (or positive, negative) 　　Depends on the perceiver's 　　Vertical (or Belief) compatibility with target	

2014; Ellemers et al., 2013). Once a target captures attention (perhaps owing to being high on Vertical), the SCM also indicates that the Horizontal should carry more subjective weight than the Vertical because the default aim is to infer the target's intent (Fiske et al., 2002), especially for expected interactions (Nicolas, Fiske, et al., 2020). Once known, the Horizontal more strongly predicts global evaluation of social groups (Kervyn et al., 2013).

The subjective importance of the Horizontal is supported by studies guided by different theoretical perspectives, if weight is operationalized by what people want to know. People first searched for, and spent more time to study, Horizontal (vs. Vertical) information when forming an impression of unknown individuals (Brambilla, Rusconi, Sacchi, & Cherubini, 2011; De Bruin & Van Lange, 2000) or groups (Brambilla et al., 2012). As noted, they wanted to know more Horizontal compared to Vertical information about an outgroup novel in their neighborhood (Nicolas, Fiske, et al., 2020). Moreover, people evaluated others' Horizontal characteristics as more important than own (Abele & Wojciszke, 2007). But in each case, the context oriented to interaction.

When the position of the target on the Vertical and Horizontal is explicitly provided, information about the Horizontal weighs more heavily—at least in forming an impression of unknown individuals (Goodwin et al., 2014) and groups, such as prospective supervisors (Pagliaro et al., 2013), actual coworkers one is not dependent on (Wojciszke & Abele, 2008), possible coworkers (Van der Lee et al., 2017; Van Prooijen & Ellemers, 2015; for a divergent finding, see Cislak & Cichocka, 2018), or future immigrants (Brambilla et al., 2013), as well as in guiding behavior toward them, for instance in terms of approach versus avoidance (Brambilla et al., 2013; Pagliaro et al., 2013; Van der Lee et al., 2017; Van Prooijen & Ellemers, 2015).

Both clearly matter. When performing together with others on a joint task that explicitly requires both morality and competence, both the morality and the competence of team members are equally important for how challenging versus threatening the collaboration seems. High competence and low morality raise the same cardiovascular threat profile as low competence and high morality (Van Prooijen et al., 2018). Whereas the SCM finds that the Vertical predicts passive behavior (associating vs. ignoring), the Horizontal predicts more active and impactful behavior toward targets (help, protect vs. attack, fight; Cuddy, Fiske, & Glick, 2007).

Beyond the previous focus on evaluating others, the DPM and BRM specifically address the different dimensions in impressions of the self. However, their predictions differ based on aspects studied as well as on different operationalizations of the Vertical dimension (focused on the ability facet, BRM; considering both the ability and assertiveness facet, DPM). Many studies support the DPM position that the Vertical weighs more than the Horizontal in self-esteem (Abele & Hauke, 2019; Abele et al., 2016; Wojciszke et al., 2011; for a review, see Abele & Hauke, 2018) and in assessing own behavior (Abele et al., 2014).

Other studies find evidence in line with BRM showing priority of the Horizontal rather than the Vertical in concerns about one's own behavior and efforts at self-image maintenance (Ellemers, Kingma, Van de Burgt, & Barreto, 2011; Pagliaro et al., 2016; Ståhl & Ellemers, 2016; Van der Lee et al., 2016; Van Nunspeet, Ellemers, & Derks, 2015; Van Nunspeet et al., 2014), as well as maintaining the ingroup image (Brambilla et al., 2013; Ellemers et al., 2008; Van der Toorn, Ellemers, & Doosje, 2015). People also

take more pride in, develop more commitment to, and experience more satisfaction in those minimal ingroups, work teams, and organizations deemed high in morality on the Horizontal, rather than on Vertical ability (Ellemers et al., 2011, 2013, 2008; Leach et al., 2007; Pagliaro et al., 2011; Van Prooijen & Ellemers, 2015).

The DPM resolves this controversy by noting that people can consider the self from the perspective of the acting self (goal pursuit: Vertical weighs more) or the self as perceived by others (reputation monitoring; Horizontal weighs more). Reputation monitoring relates to Horizontal (particularly morality, but also friendliness), but less to Vertical: People generally rate their own Horizontal (morality, friendliness) higher than their Vertical (ability, assertiveness; Abele et al., 2014; Abele & Hauke, 2019; Abele & Wojciszke, 2007, 2014; Hauke & Abele, 2019, 2020); groups deny entry and withdraw reputation, resources, or even membership if uncertain about a member being high on Horizontal (Van der Lee et al., 2017).

Pragmatic diagnosticity. A rather different priority criterion is pragmatic diagnosticity because it relates less to the perceiver (speed of processing, subjective weight) but more to the target. According to this criterion, target characteristics on the focal dimensions are more or less stable, easily observable and consensual. More specifically, the DCM and ABC model explicitly assume higher pragmatic diagnosticity of the Vertical dimension (and Beliefs dimension in the ABC model). They note that Vertical (and ABC's Beliefs) ratings are rooted in culturally defined "objective" differences, for instance in formalized titles, tested achievements, or access to resources and positions in society. Thus, these tend to be more evidence-based, obvious, consensual, and stable across time and contexts than Horizontal ratings (Kenny, Albright, Malloy, & Kashy, 1994; Koch, Imhoff, et al., 2020; Yzerbyt, 2018; Yzerbyt & Cambon, 2017). As a result, information about the Vertical (and ABC Beliefs) is more likely than the Horizontal to be readily available and offer some reliable basis to evaluate targets. In contrast, differences on the Horizontal seem to be less easily observable, less consensual and less stable than those on the Vertical (or Beliefs).

Thus, according to the DCM, higher stability and consensus of Vertical compared with Horizontal differences explains compensation based on Vertical more often than Horizontal (Yzerbyt & Cambon, 2017; Yzerbyt et al., 2008). Driving compensatory perception, pragmatic diagnosticity of the Vertical can describe this priority.

The ABC model studies pragmatic diagnosticity by modeling the latent dimensions that people spontaneously use to assess the similarities and differences of various targets (Koch & Imhoff, 2018; Koch et al., 2016; Koch, Imhoff, et al., 2020). In this multigroup comparison, diagnosticity of a dimension might increase with between-target variance on that dimension, enhancing its information value. For many groups, occupations, brands, names, and possibly other target domains, Vertical and Beliefs are the most variable and thus meaningful, diagnostic dimensions. In this case, people are likely to first select Vertical and Beliefs to mentally organize social stimuli (Henzel, Alves, Imhoff, Unkelbach, & Koch, 2020; Imhoff et al., 2018; Koch & Wildgrube, 2019; Koch, Dorrough, et al., 2020).

Unlike the DCM and ABC model, the SCM does not explicitly ask for comparisons of groups with each other, but respondents often rate several groups at once, so comparison may be implicit.

Although the SCM has not yet focused on the priority issue, as noted, related work on power (Fiske, 1993) posits that evaluators may use a target's position on the Vertical as an initial screening of whether attending to the target is important. Higher target Verticality signals the target's potential to impact the self, so justifying a further assessment of the target, presumably its position on the Horizontal; knowing a target's intent (Horizontal) affects the perceiver's own strategies. Pending further evidence, the SCM could plausibly agree about the pragmatic diagnosticity of Vertical.

The first SCM studies of open-ended description, using both the speed and order of response (Nicolas, Bai, & Fiske, 2020a, 2020b), fit this idea: One Vertical (Competence) facet, Ability, tends to be more immediately mentioned but recedes over time. Given the target's importance, the Horizontal (Warmth) facet Sociability (although less immediately mentioned) prevails eventually, which fits the subjective weight criterion described earlier. In various studies of spontaneous stereotype content, Horizontal (Warmth) was consistently one of the most frequent dimensions, sometimes surpassing Vertical (Competence) in prevalence. Nonetheless, Ability's faster, earlier responses may stem from its greater consensus and immediate utility.

For the DPM, Vertical (Agency) is a dimension people try to assess most exactly for the self, so from the self-perspective, Vertical is diagnostic. From the observer/recipient perspective, however, Horizontal (benevolent intent) is diagnostic. In case of interdependence or power differences, Vertical becomes diagnostic, too. But people mentioned a friend's, a fellow student's, and even the self's Horizontal characteristics earlier than they mentioned Vertical characteristics (Abele & Bruckmüller, 2011, 2013; Pagliaro et al., 2013). The SCM-DPM discrepancy in what people mention first could be a function of target: for societal groups, people mention Vertical first, for reasons of social acceptability or societal interdependent, whereas for a known individual, people mention Horizontal first, because of its diagnosticity.

Finally, the BRM focuses on situations where the primary goal of evaluation relates to identification of shared values, inclusion, and social esteem within the ingroup. The Horizontal (Morality information) offers a more efficient way to evaluate targets for this purpose than the Vertical. Thus, the BRM considers the Vertical as secondary to the Horizontal but is silent on which is more useful when the target is not directly relevant to the self and ingroup.

In sum, the Vertical being more pragmatically diagnostic offers a more efficient way than the Horizontal to assess the relative positions of multiple targets, and Vertical likely guides subsequent compensatory evaluations on the Horizontal, making it primary this sense. But this integration is endorsed more by the ABC, DCM, and maybe SCM, than the DPM or BRM.

Research perspectives.   This integration raises new theory and testable predictions. A first prediction is whether speed of processing parallels subjective weight, which is higher for Horizontal than Vertical as suggested here, or if contextual conditions (e.g., task and type and number of targets) may moderate this, so that sometimes speed of processing parallels pragmatic diagnosticity, which is higher for Vertical than Horizontal as suggested here. Fewer and more personal targets should favor Horizontal in both processing speed and subjective weight. Greater numbers and more analytic judgments should favor Vertical in both processing speed and pragmatic diagnosticity. Designs that hold target type

constant but manipulate expected numbers might capture moderation by target number; designs that hold number of targets constant but manipulate a personal versus analytic approach might capture moderation by task or type of target. Measures would include processing speed, subjective weight (what they want to know, rate as important, communicate to others), and pragmatic diagnosticity (what do they already know, can easily observe, readily access, and expect to be consensual). The prediction is that people generally give priority (in the sense of pragmatic diagnosticity and subjective weight) to the dimension that is most relevant to contextual goals.

Second, an actor perspective (Vertical receives priority) or a reputation monitoring (observer) perspective (Horizontal receives priority) might help to resolve this controversy. When taking an actor perspective in the context of a task, people and groups will be inclined to determine possibilities for successful goal achievement, first assessing the Vertical. However, considering social reputation from an observer perspective, people anticipate what others will like, so they approach targets high on Horizontal. Hence, they should wish to certify to others that they (or their group) score high on Horizontal.

Third, this integration has contrasted contexts of multiple-group comparisons (stressing pragmatic diagnosticity and thereby prioritizing the Vertical) versus single-group evaluation or single-person evaluation for the purpose of interaction (stressing subjective weight and thereby prioritizing the Horizontal). The prospect of interacting with others may raise additional considerations, depending on the nature of one's relationship with the other and the degree of interdependence implied. Here the different models make different predictions that can guide future research toward further theory development. As noted, the SCM assumes some degree of interdependence is needed before evaluators bother to scrutinize the target (Erber & Fiske, 1984; cf. Ames & Fiske, 2013). When they do, the target's standing on the Horizontal determines their responses (cooperation predicts help; competition predicts harm; Fiske et al., 2002).

The DPM likewise argues that interdependence between two or more individuals enhances relevance of the target for one's own goal achievement; this model predicts and shows that this increases the weight of Vertical on overall impression (Abele & Brack, 2013). Indeed, Vertical weighed more in impressions of friends compared to strangers (Abele & Wojciszke, 2007), more in supervisors on whom the self depends (Wojciszke & Abele, 2008), and more on prospective colleagues the self will supervise (Cislak & Cichocka, 2018).

Finally, BRM data suggest that interdependence can evoke different reasons that people show particular care about the Horizontal (safety in outgroup interactions vs. reputation in ingroup interactions; Brambilla et al., 2013) or the Vertical (for task achievement; Van Prooijen & Ellemers, 2015).

Summary.   Considering more closely the criteria the different models use to infer priority goes beyond their controversies to find integration—depending on criteria and on moderators. According to the criterion of processing speed, priority favors the Horizontal. According to subjective weight, priority favors the Horizontal, though both depend on moderators, such as evaluating self versus other, individuals versus groups, interdependence, and power. According to the pragmatic diagnosticity criterion, the Vertical dimension has priority for comparing or evaluating targets. Thus,

moderators include number and type of target, relationship, context.

Integration 3: Relation Between the Dimensions

The five models disagree about the relation between Vertical and Horizontal evaluations. As noted in Controversy 3, the different models have found correlations that are zero (independence of the two dimensions), positive (halo or compatibility effects), negative (compensation trade-off or compatibility effects), and curvilinear (inverted U–shaped). This was the hardest adversarial issue, so the integration first provides a more operational answer and then informs a broader more theoretical integration of the models.

Comparative context: Number of targets. The perceiver encounters contexts that distinguish between single targets (self, another individual, a group) versus rating two or more targets (individuals and groups). Not coincidentally, number of targets also played a role in Integrations 1 and 2; the psychology differs when considering one target alone versus two or more. Integration 1 suggested that, as the number of targets increases, the more impersonal and distal the dimensions (e.g., in the ABC model, Status and Beliefs), whereas fewer targets allow more proximal dimensions such as Horizontal Warmth/Communion, oriented to interactions. Integration 2 similarly suggested that the priority of the Vertical would be higher for rating many groups, encouraging pragmatic diagnosticity; single or few targets would prioritize the subjective weight of the Horizontal, in the service of interaction. For Integration 3 also, single or few targets afford different dimensional correlations than do many targets.

Single targets. The DPM and the BRM entail more single-target settings than the other models do. For the DPM, the relation between dimensions depends on type of target (Abele & Wojciszke, 2014). If the target is the self or a close other, then the focal dimensions are less correlated (or even orthogonal) than if the target is a less familiar other (positive correlation). For the BRM, independence of the trait dimensions is postulated and found (Leach et al., 2007). Targets are (in-)group members who, by definition, are familiar to the perceiver. BRM and DPM converge on higher-familiarity targets facilitating orthogonal judgments on the focal dimensions.

Two targets. Explicitly comparing just two targets seems to trigger compensation between focal dimensions (negative association), at least under no-conflict conditions (DCM; Cambon et al., 2015; Yzerbyt et al., 2005). More compensation emerges when the Vertical differences are large, stable, and legitimate. A group can be high on one dimension but must tradeoff being low on the other.

Multiple targets. In the SCM, rating more groups introduces every combination of high and low on each dimension. Orthogonality could result from equally strong halo and compensation effects blending within the same society. Consider halo as the baseline: almost every society has several highly favored and several poorly regarded groups; comparing "us" and "them" creates a positive (halo) relation. They show only this halo under similar conditions to the DPM and BRM: expected interactions with familiar (ingroup) others in peaceful, egalitarian circumstances (Durante et al., 2017, 2013).

At the same time, besides the us–them baseline, many societies additionally view several groups as mixed, that is, ambivalent, or showing a tradeoff (compensation) effect. They do so under the same conditions that favor the DCM compensation effect: large, stable, legitimate (no-conflict) inequality (Durante et al., 2017, 2013). Thus, considering a moderate number of groups combines halo and compensation, given the baseline plus Vertical inequality and stability, producing orthogonality.

ABC model studies have rated the largest number of groups, likewise facilitating a comparative context. The ABC model's distinct feature is simultaneously comparing all groups with one another and testing the relationship of self-assessments to evaluation of different groups. By introducing this arrangement, ABC showed that target-self similarity on Vertical predicts targets' Horizontal evaluation, resulting in various (positive, negative, or curvilinear) relations of targets' Vertical and Horizontal evaluations. Including the ABC model's feature of self-assessments also in the other models would test whether target-self similarity on Vertical predicts Horizontal evaluation more generally.

Research perspectives. Integrations 1 and 2 distinguished not only number but also type of target in their resolutions. Integration 3 research could similarly vary the type of target in single-target evaluations to see whether single targets evoke the halo (positive correlation) in case of low closeness/familiarity and low or orthogonal correlation in case of high closeness/familiarity (Abele & Hauke, 2019; Abele & Yzerbyt, in press; Kervyn, Yzerbyt, et al., 2009; Terache, Demoulin, & Yzerbyt, 2020). In addition to varying the type of single target, familiarity as well as closeness could be directly assessed in order to study whether this is the critical moderator. The underlying hypothesis would be that closeness/familiarity breeds differentiation and therefore lower correlations of target's evaluation on the dimensions.

More generally, research could vary the number of (two and more) targets to see whether dyadic and comparative targets evoke negative correlations, multiple targets evoke a zero correlation, and injecting the self into that context evokes a positive, inverted U–shaped, and negative effect for perceivers who see the self as high, moderate, and low on Vertical. Studies could also specifically vary the context's inequality (SCM), degree of conflict (DCM, SCM), perceived legitimacy, stability, and permeability (BRM, DCM), or even comparison salience (DCM; e.g., with more or less subtle cues for social comparison, see Judd, Garcia-Marques, & Yzerbyt, 2019).

Toward an Integrated Framework

Overall, novel and testable research questions result from integrating findings and controversies across the five models (see Table 4). Having presented three integrations with immediate operational implications, we now move toward an integrated framework with more general principles: (a) the inferred role of the perceiver, suggested by their goals in context, and (b) the overall processing modes, bottom-up and top-down, as well as (c) the functions served by social evaluation (see Table 5). Each model has tended to concentrate on particular variants of these contexts, goals, processes, and functions—which might explain the incompatible findings. This then suggests manipulating moderator variables (e.g., goals), but it does more: Each model tends to most closely represent particular domains, differing in comparative contexts, perceiver role, processing mode, and function. Each model's

Table 5
Integrative Framework for Evaluating Self, Individuals, and Groups: Overall Pattern

Function/mode	Bottom-up mode	Top-down mode
Epistemic function	Comprehension goal Trend: orthogonal relation • Self as target • Single familiar individual • Ingroup as target • Interdependent targets • Unequal society • Moderate peace-conflict	Efficiency goal Trend: positively correlated • Single unfamiliar individual • Many, unimportant targets • Equal, peaceful society • Conflictual society
Hedonic function	Compatibility goal Trend: curvilinear relation • Self-relevant targets • Comparing self & other on Vertical or Beliefs	Harmony goal Trend: negatively correlated • Comparing two low-conflict targets

domain tends to shape social evaluation with particular tendencies (biases, omissions), within reality constraints (bounded rationality).

Role of the Perceiver: Goals

At this more abstract level, beyond the immediate context cued by number and type of targets, are what the perceiver brings: the goal, motivation, or task. Although each model could operate with virtually any goal, a more profitable integration asks about each model's usual goals because some features of the models' typical contexts activate different goals. No one goal monopolizes any model, but effects of goals tested in each research program suggest some patterns. Some goals useful to our integration are comprehension, efficiency, harmony, and compatibility; the first two are more epistemic, and the second two more hedonic (see Table 5).

Comprehension. The comprehension goal arises when the evaluations are personally important but not entirely known. Evaluating one relevant target—such as the self (DPM, BRM), one's ingroup (BRM, SCM), and interdependent others (DPM, SCM)—should activate the comprehension goal. Evaluating one target—if self-relevant—motivates obtaining a sense of accurate understanding by making an effort to think through details. In the BRM, for instance, people evaluate the ingroup to discover socially appropriate behaviors, and determine how these are distinct from those for other groups. Perceivers expend mental effort on relevant targets, such as ingroup members (Ruscher et al., 1991; Van Nunspeet et al., 2015).

A comprehension goal seems to encourage orthogonality of the two dimensions. The DPM, BRM, and SCM find a zero relation between Vertical and Horizontal evaluations of one relevant target: the self in DPM research, a close other in DPM research (Abele et al., 2016), one's ingroup in BRM research (Leach et al., 2007), an interdependent other in the SCM research (Durante et al., 2017, 2013).

Efficiency. Efficiency proves useful for more impersonal assessments. Evaluating unimportant targets, such as an acquaintance or an unknown person (DPM research), a noninterdependent outgroup (some SCM targets), or many targets (as in ABC model research) should activate the efficiency goal.

The goal to evaluate efficiently should result in a positive relation—a halo effect—as found by the DPM for nonintimate targets and SCM and DCM in some contexts (e.g., extreme conflict). Efficiency aims for a rapid, good-enough answer, such as a positive correlation between Vertical and Horizontal evaluations, dividing targets by overall good or bad valence. In the DPM, unimportant targets forfeit detailed comprehension for rapid overall grasp, to save energy or to get the gist (perhaps a single dimension) with minimal effort. In the SCM, rushed or preoccupied (low bandwidth) responses apparently produce correlated good-bad dimensions; this may account for the positive correlation displayed by high-conflict societies, where us-versus-them is an adequate heuristic (Durante et al., 2017). In some DCM research, when perceivers believed the full spectrum of dimensions was not available to appraise the targets, they manifested positive correlations between Vertical and Horizontal.

Harmony. The goal to evaluate harmoniously—in a way that ensures everyone's esteem and facilitates cooperation in spite of differences on Vertical—should result in a negative relation as found by the DCM. Harmony matters in a close, interdependent system. No-conflict contexts with obvious and undeniable Vertical difference between two or more targets should activate the harmony goal, such as in DCM research, some close dyads in the DPM, and some societies studied by the SCM.

Being evaluated positively in a salient social comparison is a core social motive, as is the motive to believe in fairness. Regarding the esteem motive, social identity theory teaches that each group can be positive in a different way, which also fits the motive to be fair, allowing system justification. Social comparison theory makes a related argument for individuals.

Given the often large, obvious, legitimate, and undeniable Vertical differences between targets, the common solution compensates Vertical inferiority with evaluative superiority on the Horizontal dimension. Perceivers likely engage in such compensatory evaluation under the noted conditions—a salient self-other comparison, a harmony goal as opposed to conflict, and obvious, undeniable Vertical differences. The DCM obtains compensation for target pairs that do and do not include the self (Yzerbyt, 2018). As a parallel, the SCM ambivalent clusters (equivalent to compensation) function to justify the unequal system as fair (the "deserving" poor; the "undeserving" rich; Durante & Fiske, 2017).

Rating the self and relevant other targets triggers self-other comparison; if Vertical differences are present, and if the harmony

goal remains active, there should be compensatory evaluation. But if the perceiver also finds some targets are unimportant, efficiency kicks in, and baseline halo responses are good-enough, however. Thus, the negative and positive correlation resulting from the harmony and efficiency goal, respectively, should blend into a zero correlation between Vertical and Horizontal evaluations, as found by the SCM in societies with little conflict and obvious, undeniable Vertical differences between many groups. In conflict-ridden societies, however, the SCM finds a positive Vertical-Horizontal correlation, presumably because the harmony goal gives way to the efficiency goal (Durante et al., 2017).

Compatibility. Compatibility goals should activate when evaluating the relation of self and others, for example, between own and other groups in society (SCM, ABC model), between self and different groups (BRM, ABC model), or between the self and another individual (DPM).

In evaluating perceiver-target relations, the DPM, BRM, DCM, and SCM show that under certain conditions, aggregating across perceivers' ratings of targets' Vertical and Horizontal produce a range of results that relate zero or positively (DPM, SCM), zero (BRM), and negatively (DCM). These aggregate Vertical-Horizontal correlations in effect describe the *average perceiver*, collapsing over particular perceiver-target relations. The ABC model offers one explanation for why and how this Vertical-Horizontal correlation varies across *different types of perceiver-target combinations*. Perceivers want to know where in society they fit and how others relate to the self (i.e., whom to evaluate as positive on Horizontal, who affords socializing, trusting, and co-operating). Facing many targets that obviously and undeniably differ on the Vertical dimension, as in ABC model studies, a perceiver infers a higher score on Horizontal for targets they evaluate as more similar to the self on Vertical. Across targets, the resulting Vertical-Horizontal relation is positive for perceivers who evaluate the self as high on Vertical, inverted u-shaped for perceivers who see the self as moderate on Vertical, and negative for perceivers who see the self as low on Vertical (Koch, Imhoff, et al., 2020).

Other integrations are possible, however. In ABC model studies, perceivers evaluate many targets, which deactivates the comprehension goal and activates the efficiency goal. Self-other comparison is moderately salient, as perceivers evaluate the self vis-à-vis these targets. Further, between-targets Vertical differences (U.S. groups) are obvious and undeniable.

Assuming that U.S. perceivers have a harmony goal (manifested as cultural beliefs in fairness and meritocracy), the aggregated evaluations of U.S. groups' Vertical and Horizontal scores should correlate zero in ABC studies, as found in SCM research. And indeed, analyzing the very same data but switching from describing between-perceiver variation to describing the average perceiver, the ABC model finds a zero correlation, just like the SCM. Thus, the compatibility goal of U.S. residents evaluating many U.S. groups, as supported by the ABC model, seems to concur with these perceivers' efficiency and harmony goals when evaluating these targets, as supported by the SCM (Koch, Imhoff, et al., 2020).

Research perspectives. Future studies could substantiate this goal-based aspect of the integrated framework by manipulating perceiver, target, their relation, goal, and context. These manipulations should first attempt to activate the four goals of comprehension, efficiency, harmony, and compatibility as just hypothesized.

Second, the manipulations should account for features of the comparative context and perceiver-target relations (Integrations 1–3). Evaluating one relevant versus unimportant target (e.g., the self vs. an acquaintance, or one's ingroup vs. a noninterdependent outgroup), perceivers should endorse comprehensive over efficient evaluation, respectively. Evaluating many versus few targets (e.g., 40 groups vs. one's ingroup), however, perceivers should endorse efficiency and compatibility over comprehension. If friendly (no-conflict) targets are Vertically superior or inferior to one's ingroup, perceivers should endorse not just efficiency and compatibility but also the harmony goal. Perceivers' endorsement of the harmony goal should grow stronger as the targets to be evaluated reduce to just one friendly target and one's ingroup.

Further substantiating our overall integrative framework, future studies could directly manipulate the four goals of comprehension, efficiency, harmony, and compatibility (e.g., by instructing "Make an effort to evaluate the groups in a way that takes note of detail"), to see whether they produce and prioritize the expected two dimensions, with a zero, positive, negative, and inverted u-shaped Vertical-Horizontal correlation as here hypothesized. Prompts to evaluate comprehensively, efficiently, and harmoniously (e.g., "Evaluate the groups in a way that ensures everyone's esteem") should respectively result in a zero (DPM, BRM, and SCM), positive (DPM and SCM), and negative (DCM) correlation between Vertical and Horizontal. And for perceivers manipulated to see the self as high, moderate, and low on Vertical, a prompt to evaluate compatibility should result in a positive, inverted U–shaped, and negative Vertical-Horizontal correlation as found by the ABC model.

Interim summary. So far, Integrations 1–3 first proposed concrete moderators of the number, priority, and relations of the two dimensions: type of target (self, close other, distant other), number of targets (single, two, multiple targets), and context of evaluation (explicit comparative or not; equal or unequal societal context). At a more abstract level, our overall integrative framework first added perceiver goals. The next section moves to a second abstract distinction, data-driven versus lay theory-driven processes, and the closing section describes some functions served by social evaluation (see Table 5).

Processing Modes: Data-Driven and Theory-Driven

To integrate conceptually, at a second abstract level, we consider two processing modes—data-driven, bottom-up, accommodative versus lay theory-driven, top-down, assimilative processing (Fiedler, 2001; Lord, Ross, & Lepper, 1979); these modes interact to produce the dynamics of Vertical and Horizontal.

Top-down processing. Social judgments are largely top-down, *inference*-based evaluations (Freeman, Stolier, & Brooks, 2020). Preexisting perceiver expectations about targets and self-target relations may function as lay theories that define social reality. These a priori expectations influence how perceivers selectively seek, interpret, and recall information—allowing them to confirm or adjust preexisting assumptions (Nickerson, 1998) within the bounds of reality constraints. Evaluating less visible and more value-laden human features (e.g., on the Horizontal) offers

perceivers many degrees of freedom in forming socially constructed judgments.

Inference-based judgments serve efficiency. Forming a quick-and-dirty global impression can suffice for many social goals (Fiske & Taylor, 2020; Macrae, Milne, & Bodenhausen, 1994; Sherman, Lee, Bessenoff, & Frost, 1998), especially when evaluating many targets at once or targets relatively distant from the self. Additionally, top-down inferences about target properties can use prior notions about compatibility or conflict between targets (Koch, Imhoff, et al., 2020), assumptions about their overall positivity/negativity (resulting in halo/horn effects; Gräf & Unkelbach, 2016), the role they are likely to play in a particular situation (Carrier, Dompnier, et al., 2019), or essentialist, stereotypic features associated with these targets, characterizing their place in society (Imhoff et al., 2018). In particular, extreme outgroups or personally irrelevant targets tend to be temporally, spatially, socially, or hypothetically remote, and this psychological distance elicits an abstract mindset with a focus on gist. A general positive or negative judgment could reflect an expectancy, anchor, rough estimate, or stereotype, all good-enough for rapid, casual use.

Top-down concerns and preexisting expectations about specific types of targets and the relations between them drive social evaluation in the DPM, BRM, and SCM (when considering relations between individuals and groups in society). These three models speak to interests at stake in perceiving the self (DPM, BRM), close others (DPM), and the ingroup (BRM) in a positive light, or in justifying established relations between groups in a particular society (SCM).

Top-down processes take several forms here. The DPM specifically documents perspective-driven concerns that dominate social judgment (being the actor or being the observer) about the self or others. Further, the DPM notes that perceivers can be satisfied with forming more global positive/negative impressions of targets that are relatively distant from the self, suggesting that these targets invite a top-down mode of social evaluative judgment, particularly with respect to the Horizontal dimension. The BRM likewise finds that the interpretation of identical information for overall judgments may differ, depending on whether this pertains to ingroup or outgroup members, based on top-down theories, for example, about the virtues of each. Finally, in its multination comparisons of target judgments, the SCM finds first that most nations share common theories of their admired middle class, despised outcasts, envied rich, and pitied elders. Second, SCM finds that relations between the dimensions also depend on the peaceful versus conflictual relations between societal groups, as well as the level of social inequality and diversity that characterize a particular society. Here too, the prior understanding of how different groups in society relate to each other guides how a specific target appears on the two dimensions (zero or positive correlation). All these models thus agree that top-down concerns, prior experiences, expectations, and lay theories may guide inferences about the valence, meaning, and weight of information.

Hence, it is no coincidence that these three models all assume that perceivers give more weight to the Horizontal (with the SCM exception and the DPM exceptions noted above): This is the dimension where assessments tend to be more subjective and more easily adjust to "the eye of the beholder" to match specific social evaluative needs. Of course, here too the concrete and consensual evidence about the standing of targets on the Vertical bounds the construction of more subjective Horizontal ratings. In fact, taking into account actual variations on the Vertical, relatively independently of judgments on the Horizontal, makes it possible to accommodate all possible combinations of Horizontal and Vertical ratings. This is reflected in the orthogonality of ratings on the two dimensions these three models typically find.

In this context, self-assessments in the DPM are a special case, in that reality-based judgments on the Vertical drive the formation judgments about the self. Yet, we know that people with healthy self-views tend to be relatively confident about their own morality and friendliness, even if this is biased. Thus, probably self-ratings on the Horizontal generally shift toward the positive scale end (Abele & Hauke, 2019; Abele & Wojciszke, 2007), regardless of actual evidence of ability and assertiveness on the Vertical, which would also produce an orthogonal relation between the two dimensions.

Bottom-up processing. In some essentially *information*-based evaluations, the position of targets on a particular dimension results from processing concrete information about their obvious achievements, visible demeanor, or stated opinions. Bottom-up information defines reality constraints in target positions on the Vertical. This pragmatic diagnosticity starts the process of forming comparative judgments about multiple targets according to the DCM and ABC model, and in some cases for the SCM. For the DPM model, bottom-up processing is particularly important for the self and for close and interdependent others. Of course, bottom-up and top-down processes interact, but these models are relatively more data-driven, bottom-up.

The DCM assumes that the more stable, observable, and consensual nature of the Vertical dimension (e.g., differences in social rank) constitutes the most salient bottom-up anchor for forming comparative judgments (Cambon et al., 2015; Yzerbyt & Cambon, 2017; Yzerbyt et al., 2005). This defines the realistic context for construing compensatory Horizontal judgments. Perceivers' lay theories about compensation provide a more top-down element. At the same time, for the bottom-up process, the DCM holds that in intergroup and interpersonal relations, particular positions on the Vertical are conducive to specific responses on the Horizontal. Higher social rank paves the way to behaviors that tend to constrain others; lower social rank often materializes into expressions of collaboration and conformity. In the absence of both strong conflict and equal status, top-down processes kick in and amplify, allowing compensatory inferences to color judgments further. In this model, once accounting for bottom-up differences reflecting social realities on the Vertical, along with their influences on the Horizontal, the goal or willingness to build harmonious relations between groups further polarizes inferential judgments on the Horizontal. In the DCM, it is this tertiary, top-down construal process—based on initial bottom-up ratings of information mainly about the Vertical but also the Horizontal—that creates a negative relation between the two dimensions.

The ABC model argues that larger numbers of targets differ more, and differ more saliently, in terms of observable signals of the Vertical (e.g., achievements, possessions, and momentous behavior) and the Beliefs dimension (e.g., loose/alternative vs. tight/conventional appearance and behavior; Koch & Imhoff, 2018). This higher variance in, and salience of, observable Vertical and Beliefs signals triggers bottom-up processing. Thus, perceivers

initially pay more attention to Vertical and Beliefs when comparatively evaluating larger numbers of targets. The ABC model specifies that subsequent top-down inferences or memories about the targets' position on the Horizontal depend on the perceiver's self-rating on the Vertical and Beliefs. Targets closer to the perceiver in terms of the Vertical and Beliefs receive higher ratings on the Horizontal (Koch, Imhoff, et al., 2020). The evaluation that these targets score high on the Horizontal follows from the top-down experience or assumption that getting along is easier with Vertical and Beliefs similarity between the target and the perceiver. This combination of bottom-up evidence for ordering targets on the Vertical and Beliefs and top-down inferences about compatibility of the targets with the perceiver on the Horizontal explains their different relations.

Prior work in the SCM orbit (Fiske, 1993) assumes that—when considering specific targets—perceivers initially assess bottom-up evidence about the target's position on the Vertical as an efficiency strategy. The greater potential of targets high on the Vertical to control outcomes merits investing in trying to form an accurate judgment about their beneficial or harmful intent, and careful processing of available information on the Horizontal. However, if bottom-up information on the Vertical has established that the social power of the target is limited, more specific information about their intent can be safely ignored. This would result in more stereotypical, socially construed, and possibly inaccurate Horizontal inferences, less evidence-based, more top-down processing. Efficiency may take precedence. Hence, in the SCM different processing modes may operate (comprehension vs. efficiency), which in turn may alter relations between target ratings on the two dimensions. This depends also on the number and Vertical range of targets considered (for determining effort invested in accurate impression formation), the nature of the information available about their intent on the Horizontal (for bottom-up evaluations of targets high on the Vertical), and the content of stereotypical views (from which inferences are made for targets low on the Vertical).

For the DCM, ABC model, and SCM, social judgments reflect top-down inferences about the Horizontal based on bottom-up processing of observable information that first diagnoses relative differences between targets on the Vertical. Differences in the nature and number of the targets—and their relation to the perceiver—trigger top-down construal mechanisms that comprise concerns targeted by different models: compensation in the comparison between two interdependent targets for the DCM, (lack of) compatibility of many targets from the perspective of the perceiver for the ABC model, and efficiency of information processing about specific targets for the SCM. None of these models considers social judgments merely as a reflection of observable, objective target features; this helps explain different relations between the dimensions observed in different models.

For the DPM social judgments reflect both bottom-up and top-down processes. Bottom-up inferences become more important when the target is either the self or a close and/or interdependent other person. In this case, information on the Vertical is processed very carefully and with a comprehension goal, because it is relevant for "getting ahead" and therefore social evaluation on the Vertical should be as accurate as possible (Abele & Wojciszke, 2014).

Summary. When forming social judgments, bottom-up reality constraints and top-down assumptions typically *interact*. This interaction can unfold in different ways, depending on variables operationalized in the preceding integrations: the nature and number of targets, their relation to the self, and the evaluative goal or task, as already described operationally in the previous integrations. Our consideration of bottom-up and top-down mechanisms in the process of social impression formation helps align predictions from the five models as more abstract principles. Resolving the controversies so far had developed more operational insights about differences in the nature of the Horizontal and Vertical dimensions (Integration 1), the conditions for prioritizing one dimension (Integration 2), and their relations (Integration 3).

Research perspectives. Future studies could substantiate this integration by inclusion of neuro-cognitive, eye-tracking or lexical indicators of perceptual attention, expectancy violation, superficial versus deeper processing or recall of identical target properties might reveal the extent to which overall impressions relate to bottom-up processing of information provided, or reflect top-down inferences about specific targets or the relations between them. Not only examining final target judgments on the Horizontal and Vertical but also comparing whether and how these reflect or ignore available target information should offer additional insight in this process.

Finally, future studies could explicitly manipulate whether perceivers start evaluating targets on the Vertical before they assess the Horizontal or vice versa, to examine how this impacts on the evaluation process, the final judgments made, and the relation between these two dimensions. Vertical first should produce typical DCM and ABC results; Horizontal first should produce typical BRM and DPM results. For the SCM and all the models, order effects interact with moderators already mentioned.

Likewise, future studies could directly manipulate top-down concerns, independent of the nature and number of targets evaluated, for example, instructing participants to note details about each target, to afford esteem to each target, or to express key distinctions between targets. In a similar vein, studies could systematically induce perceivers to consider their own position as high, moderate, or low on the Vertical or the Horizontal, to examine how this affects the way they assess the position of other targets and the resulting relation between the two dimensions.

Summary. This part of our integrative framework argues that different features of the five models' perceiver goals and context (target self-relevance, number, identity, and relation) activate different bottom-up reality constraints and top-down evaluative concerns, according to priorities expressed by different criteria (Integration 2's subjective diagnosticity etc.). The implication is no fixed relation between Vertical and Horizontal evaluations, which result from the interplay between bottom-up information processing and top-down inferences.

Functions

Finally, a more general moderator of social evaluation implicit in all five models is the function served by social evaluation. Traced back to both evolutionary (Ybarra et al., 2008) and pragmatic accounts (Fiske, 1992; for an overview, see Abele & Wojciszke, 2014), navigating the social world serves two main functions: epistemic (gaining knowledge) and hedonic (feeling good or at least not bad). *Social epistemic functions* include a quest for accuracy, important for knowledge generation, for instance, pre-

dicting the likely outcomes of an interaction, assessing own and others' intentions and capabilities for pursuing certain goals. These social-epistemic functions also include a quest for socially shared understanding, which may or may not be accurate, but the shared reality helps one to get along and understand where to belong (Hardin & Higgins, 1996; Turner, 1985, 1991). Even in negative interdependence, the epistemic function might increase prediction and control, and therefore safety. Absent interdependence, epistemic functions might serve understanding of similarities and differences between multiple targets to choose approach versus avoidance. Epistemic functions suit task goals more obviously, but they also suit relational and belonging goals. As our earlier descriptions indicate, comprehension and efficiency goals often serve epistemic functions.

Hedonic functions serve affective experience, seeking pleasure or at least comfort (avoiding pain). Hedonic functions clearly drive the quest for esteem and for the personal rewards of social interactions or comparisons such as boosting esteem of the self, one's ingroup or close others, forming harmonious relations with different groups, but also derogating disliked groups, to display ingroup loyalty. But hedonic functions are not limited to obvious self-interest; affective experience can drive the quest for empathy and trust. Our earlier description of harmony and compatibility mostly serve hedonic functions.

Usually, these knowing and feeling functions are intertwined. Priority for one or the other depends on situational conditions and perceiver needs. Some of the present models are more focused on esteem functions (for instance, BRM: viewing one's ingroup as moral boosts esteem of this group; also DCM: compensation as a means to achieve harmonious relationships between groups); others are more focused on accuracy functions (for instance, ABC: consensual descriptions of groups' Vertical and Beliefs evaluation). Still others focus on both functions (for instance, DPM: actor—observer perspective differences in both assessing behavior and evaluating esteem; SCM: evaluation of groups depends on shared perceptions of societal structure, and emotional reactions depend on stereotypic "knowledge").

The integrative framework for evaluating self, individuals, and groups (see Table 4) contains moderators: Functions of social evaluation (epistemic, hedonic), targets of evaluation (self, individuals, groups), perceiver—target relation (interdependence, power, status), and context (comparative context, societal conditions). These moderators impact the assessment of targets on the focal dimensions (and facets) with respect to both priority of one of the dimensions and association between dimensions. The dimensional assessments, in turn, have various consequences for emotions, attitudes, and behavior toward the targets assessed.

The models discussed here have already revealed findings relevant for parts of the suggested framework. The present integration of controversies has created new research questions, some outlined already. Final thoughts here address the consequences of dimension assessments: On the positive end of the Horizontal dimension, judged similarity, cooperativeness, and ingroup identification predict positive emotions, liking, moral respect, esteem, ingroup pride, willingness to interact, protection, cooperation, behavioral approach. This end of the Horizontal tends toward resource equality (Fiske & Bai, 2020). The opposite end predicts conflict, potential harm, and resource inequality.

Verticality is by nature comparative. Judged Vertical *distance above self* predicts respect, willingness to interact, going along with the other (complying)—except under realistic or symbolic threat (derived from the Horizontal, i.e., low Morality and Friendliness). Vertical *similarity to the self* predicts liking, positive emotions, and cooperation. This holds unless the similar other has competitive intent. Vertical distance *below the self* predicts pity or disgust, depending on the other's Horizontal standing (Morality and Friendliness), and corresponding behaviors. In benign comparisons, the other's low Vertical (Ability and Assertiveness) may also imply the other is high on the Horizontal (Morality and Friendliness).

Research Directions

The moderators—*functions, targets, perceiver*—target relation, number of targets, context—all can constitute independent variables to test the framework's effects. For example, it could be tested whether the models' standard findings require at least minimal degrees of (inter)dependence. The perceiver-target interdependence could contrast two mutually irrelevant entities with two having shared goals and two with competing goals. The dyads would differ by model: for the DPM, self and other; for the BRM, self and ingroup; for the DCM, two related groups; for the SCM, two random groups from a moderate-sized context; and for the ABC, two random groups, from a larger context. Manipulating direction of interdependence might seem difficult in some cases, but the principle remains plausible, and experimentally feasible (e.g., perceiving the goals of the ingroup as competing with goals of the self).

Research could benefit from considering both functions emphasized here (see Table 4). For example, the function of the Horizontal aligns the BRM and DPM when considering interacting with the self from the perspective of others. The SCM might manipulate perceiver goals of getting along versus getting ahead, to test the relative functions of gathering information on the Horizontal and Vertical, as predicted by the other models.

Integrated Social Evaluation Parallels Social and Personality Approaches

We are not alone in turning to these dimensions. Equivalents to the Horizontal and Vertical as basic dimensions (under different labels) appear in evolutionary theorizing (Ybarra et al., 2008), functional accounts of pragmatic social perception (Fiske, 1992), cultural psychology (Markus & Kitayama, 1991), social desirability and self-presentation research (Paulhus, 2018), gender (Eagly & Steffen, 1984), group dynamics (Bales, 1950; Bass, 1990), motivation (Locke & Schattke, 2019; McAdams, Hoffman, Mansfield, & Day, 1996), developmental psychology (Erikson, 1950), face perception (Willis & Todorov, 2006), and context effects (Abele & Wojciszke, 2014, 2018), to name just a few more-or-less related to issues examined in social psychology.

Personality psychology also proposes two-factor models that broadly relate to social bonding versus accomplishing tasks (e.g., Digman, 1997; Hogan, 1983; Saucier, 2009; Wiggins, 1979, 1991). Of course, personality psychology focuses on individual differences and accurate prediction of behavior, whereas social psychology pays attention to subjective, (inter)individual evalua-

tion in social contexts. This key difference notwithstanding, personality psychologists also face the problem of determining the necessary and sufficient number of dimensions for describing personality and behavior. Indeed, personality models comprise between two and six (if facets are included, even more) factors and debate how many fully describe personality. Moreover, whether the conceptualizations of these factors are comparable is also at the heart of a vigorous debate. Without going into the details of this discussion, some issues are similar to the ones examined in the present contribution.

At present, the Big Five or OCEAN conceptualization of personality (Goldberg, 1990; McCrae & Costa, 1987, 1996)—that is, openness to experience (fantasy, aesthetics, feelings), conscientiousness (competence, order, dutifulness), extraversion (warmth, gregariousness, assertiveness), agreeableness (trust, straightforwardness, altruism), and neuroticism (anxiety, angry hostility, depression)—stands as one of the most prominent approaches. Several authors suggested that the Big Five can be integrated into Big Two frameworks (Blackburn, Renwick, Donnelly, & Logan, 2004; Peabody & Goldberg, 1989; Saucier, 2009; Trapnell & Wiggins, 1990). In one full alignment, agreeableness, conscientiousness, and the inverse of neuroticism load on socialization or (social, motivational, and emotional) stability; extraversion and openness load on personal growth or (cognitive and behavioral) plasticity (DeYoung, 2006; DeYoung, Peterson, & Higgins, 2002; Digman, 1997). (For a less complete alignment, see Wiggins's [1991] circumplex model of interpersonal dispositions; cf. Locke & Schattke, 2019.)

Different Big Two models of personality overlap, too (Strus & Cieciuch, 2017; Strus, Cieciuch, & Rowiński, 2014). For example, "getting along" and "getting ahead" (Hogan, 1983) and other Big Twos of personality are more robust across languages/cultures (Saucier, 2009) than are the Big Five. And their resemblance to Horizontal (particularly the Friendliness facet) and Vertical (particularly the Assertiveness facet) in social evaluation is striking. (Also, two overall goals and values either idealize self-transcendence [benevolence, universalism, related to Horizontal] or self-enhancement [power, achievement], related to Vertical; Sagiv, Roccas, Cieciuch, & Schwartz, 2017; Schwartz, 2017.)

A counterpoint to reducing the Big Five to two main dimensions is a six-factor model for personality assessment: HEXACO (Ashton & Lee, 2007, 2008a, 2009; but see De Raad et al., 2010). HEXACO separates agreeableness from the sixth factor, honesty-humility. This resembles our distinction between the Friendliness and Morality facets of Horizontal. Honesty-humility predicts remorseless and unethical behavior, for instance in business contexts (Ashton & Lee, 2008b; Paulhus & Williams, 2002)—which resonates with the BRM—and HEXACO predicts political ideologies and voting behavior (Chirumbolo & Leone, 2010)—which resonates with ABC research addressing Beliefs/ideologies in social evaluations.

In sum, models and measures to assess personality differences include efforts to reduce Big Five to two factors as well as efforts to further refine these factors by adding a sixth dimension— revealing developments, disagreements, and debates that parallel some of ours. As such, personality researchers may find some utility, for resolving their own controversies, in the methods used in the present efforts (Ellemers et al., 2020).

Nevertheless, our focus on context-driven subjective social perception differentiates the current project from psychometricians' goal of objectively assessing personality-driven behavior. Furthermore, as our analysis reveals, reaching consensus about how to define the distinctions between these two dimensions for social judgment (resolving Controversy 1) only offers an initial language that allows for joint theorizing combining different models and approaches. The additional analysis developed here goes well beyond any overlap with personality psychology, as we needed to understand which dimension has priority under which conditions (resolving Controversy 2), and how judgments on the two dimensions come about and relate to each other (resolving Controversy 3). Together, these three ingredients make it possible to build an integrative framework of subjective social perception, its goals, modes. and functions.

Conclusion

As a route to theory building, adversarial collaboration provides an alternative to mutually assured destruction, instead creating intellectual diplomacy. We found this to be possible by isolating a representative of each perspective in an attractive context, spending time to make explicit one's domains, premises, and evidence, then comparing details of the models, to see what each accomplishes alone and together (Ellemers et al., 2020).

Together these models validate the robustly shared Vertical and Horizontal dimensions, with facets. Priority favors the Horizontal on the criteria of processing and subjective weight. But priority favors the Vertical on pragmatic diagnosticity. Moderators include type of target (self, individuals, groups), number of targets (one, two, several, many), and perceiver-target relationship (interdependence, status, power) as well as context (explicit comparison or not; equality; peace-conflict).

The relation between the dimensions has several levels of candidate explanations. Most operational are number and type of target, which determine the comparative context. At the next level are the perceiver's goals, which include data-driven comprehension or top-down efficiency that relies on gist, expectations, and heuristics—serving epistemic functions. Serving more hedonic functions are harmony control, top-down lay theories of (e.g.) compensation or deservingness, versus compatibility, a bottom-up matching of self to another.

Evaluation of targets on these dimensions has consequences for emotions, behavior, and social interactions. The integrative framework generates novel predictions for further research and allows more refined analysis of complex social problems, as we argue elsewhere (Koch et al., in press). Other scientists may benefit from both the Vertical and the Horizontal.

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