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Motivational Processes Underlying Both Prejudice and Helping

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Abstract

Examined at the behavioral level, prejudice and helping appear as qualitatively different and perhaps mutually incompatible social behaviors. As a result, the literatures on prejudice and helping evolved largely independent of each other. When they are examined at the process level, however, underlying similarities appear. Furthermore, when anomalies are examined within each of these two separate literatures, similarities become more apparent. Finally, the personality dimension of agreeableness is systematically related to both prejudice and helping. The authors propose that many forms of prejudice and helping are expressions of underlying processes of self-regulation and social accommodation. After discussing several other social-cognitive approaches to self-correction, the authors offer a novel opponent process model of motivation that integrates the apparently exclusive processes of prejudice and helping into a single system.

Keywords

prejudice, helping, stigma, agreeableness, regulation

The same person who seeks out situational opportunities to punish or aggress against others with “active deviance” (e.g., persons convicted of crimes) may help others with passive deviances such as illness or disability (Dijker & Koomen, 2007; Staub, 2003). Is this still more evidence for the lack of consistency in social behavior, or evidence for the exact opposite, namely, a deeper form of consistency? This article argues for the deeper consistency and addresses three issues. First, we note parallels in two ostensibly dissimilar social behaviors, namely, prejudice and helping. Despite their different phenotypic emphases and foci, these parallels in prejudice and helping may be a consequence of both involving related approach and avoidance processes. Second, we propose an apparently paradoxical idea that a common motivational system may underlie both forms of behavior. The idea involves a dual process motive system operating in sequence. Some anomalies and curiosities within each of these two research literatures may be explained by applying a dual process model to fit both literatures. Dual and multiprocess models are available in the literatures on attitudes and prejudice (Moskowitz, Skurnik, & Galinsky, 1999; Pryor, Reeder, Yeadon, & Hesson-McInnis, 2004) and on helping (S. L. Brown & Brown, 2006; Dijker & Koomen, 2007), but they may be more general than previously recognized. Third, we propose that further clarification of some of the apparent anomalies in the two literatures can be obtained using a dual process sequential opponent motivational system. These two motives are activated in interpersonal situations. Differences in behavior are exhibited when one motivate gains preponderant control over another.

Anomalies, Curiosities, and Striking Parallels

Like tribes living separate lives and unaware of each other, research on the social psychology of prejudice and research on helping and altruism live in virtual isolation from each other. At first glance, this makes sense. Prejudice is usually regarded as a negative, even antisocial behavior, whereas helping is usually construed as a positive, constructive pro-social activity. Furthermore, at least historically prejudice appears to be a specialized subtopic within the social psychology of attitudes (e.g., G. W. Allport, 1954; Duckitt, 1994), whereas helping has a different kinship. In several comprehensive book-length reviews of the literature on helping (e.g., Batson, 1991, 2009; Dovidio, Piliavin, Schroeder, & Penner, 2006; Penner & Orom, 2009; Sober & Wilson, 1998; Staub, 2003; Wispe, 1991), the term *attitude* does not even appear in the index.

On close inspection, treating helping and prejudice as separate domains is harder to justify. First, among the small number of researchers who are active in both areas (e.g., Dovidio, Gaertner, Validzic, Matoka, & Johnson, 1997; Dovidio et al., 2009; Gaertner & Dovidio, 1977; Gaertner

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et al., 1997; Kunstman & Plant, 2008; Penner, Dovidio, Piliavin, & Schroeder, 2005; Penner & Orom, 2009; Pryor, Reeder, Monroe, & Patel, in press), similar processes seem to underlie both prejudice and helping. Perhaps the most conspicuous example is reactions based on the in-group versus out-group status of the victim (e.g., Dovidio et al., 2009; Graziano, Habashi, Sheese, & Tobin, 2007; Piliavin, Dovidio, Gaertner, & Clark, 1981). Members of out-groups are generally evaluated less positively, and they are also less likely to receive help. Digging a bit deeper, we find half-hidden assumptions about processes that apply to both areas. Prejudice and helping were originally conceptualized in modern social psychology as attitude phenomena (e.g., F. H. Allport, 1924). As such, they contained cognitive, affective, and behavioral components. Later, they were conceptualized as phenomena of interpersonal affect, or at least containing sizable elements of attraction. Even within more focused debates about interpersonal repulsion (e.g., Byrne, 1997; Rosenbaum, 1986), a common assumption is that target persons can be placed along a single attitudinal continuum of positive to negative affect (Berscheid, 1985; Graziano & Bruce, 2008; see Feldman Barrett & Bliss-Moreau, 2009, pp. 182-188).

In addition to some common variables and processes, both literatures acknowledge the possibility that phenomena in their respective areas contain elements of both approach and avoidance. In the helping area, studies show that "messy victims" (e.g., bleeding) seem to activate avoidance that blocks helping (e.g., Piliavin et al., 1981). In Batson's empathy altruism model (Batson, 1991, 2009), avoidance is also present when self-focused personal distress seems to block helping, especially when escape from the helping situation is relatively easy (Batson, Duncan, Ackerman, Buckley, & Birch, 1981). In the prejudice and stigma literature, Pryor et al. (2004) showed that people often have an initially negative reflexive reaction to out-group members. Within milliseconds, however, corrective reflective processes come on line and suppress the avoidance. The nature of the Pryor paradigm makes it clear that both reflexive avoidance and reflective approach are operative.

From a theoretical perspective, apparent anomalies in these two areas can be informative about potentially shared processes. Let us consider each of the areas separately, noting points of controversy, and then examine potential commonalities. We begin with psychological processes related to prejudice.

The Social Psychology of Prejudice

Ever since G. W. Allport's (1954) pioneering book *The Nature of Prejudice*, the topic of prejudice has been a central topic in social psychology. Allport's definition and approach are regarded as foundational work (Dovidio, Glick, & Rudman, 2005), so they influenced subsequent thinking and are the main concerns of this section. Allport focused on

antipathy and ethnic prejudice in his initial conceptualization of prejudice, but he did not restrict his analyses to ethnic prejudice only. Presumably potential targets of evaluation can be placed along a single attitudinal continuum of positive to negative affect. Subsequent writers (e.g., Dovidio et al., 2005) noted that Allport's focus on antipathy induced prejudice researchers to overlook more prevalent interpersonal mechanisms of social control, thereby missing the broader dynamics of prejudice. For example, sexism and paternalism entail elements of protection and benevolence. These seemingly positive reactions, not antipathy, help the dominant group maintain its advantaged position.

Second, Allport was certain that prejudice showed a coherent pattern. The person who was anti-Jewish was also likely to be prejudiced against other groups. Allport's view of the generality of prejudice is still controversial. Subsequent research on this consistency hypothesis showed a mixed pattern. Consistency in patterns of prejudice may be difficult to identify because certain forms of prejudice are normatively inappropriate to express (Crandall, Eshleman, & O'Brien, 2002). On one hand, persons who do not express prejudice may not hold specific prejudices, or they may choose not to express the prejudices they hold. On the other hand, persons who do express normatively inappropriate prejudices may do so for several different reasons (Olson & Fazio, 2009). They may hold uncommonly strong specific prejudices that they are willing to express despite normative pressure. Alternatively, they may not hold specific prejudices but interpret norms of appropriateness to encourage the expression of prejudice. In this case, prejudices are expressed in response to conformity pressure. More recently, Dijker and Koomen (2007) note that targets of prejudice may differ from each other in ways that undermine the appearance of consistency. As previously noted, persons who seek situational opportunities to punish or aggress against persons convicted of crimes may help others who are ill or disabled. Dijker and Koomen note that this phenotypic inconsistency reflects a deeper source of consistency. We subsequently discuss this issue as one of the seeming paradoxes of helping.

Because he believed he saw consistency in prejudice, Allport was certain that prejudice was a manifestation of personality. This part of Allport's analysis seems to have drawn the most fire. There is little question that there are systematic, consistent individual differences in prejudice. At issue is the nature and motivational source of these differences. Concretely, if there is a patterned coherence and consistency in evaluations of others, then what is the best way to describe the processes underlying these patterns? Allport's term, *the prejudiced personality*, implies that there is a single motivational syndrome or set of essential dispositions that create systematic patterns of social evaluation. This syndrome appears to be reflected in group-level (i.e., in-group vs. out-group) authoritarianism and ethnocentrism (e.g., Stone, Lederer, & Christie, 1993; cf. Reynolds, Turner, Haslam, &

Ryan, 2001; Tajfel & Turner, 2001). However, critiques of the research on the authoritarian personality raised conceptual questions about validity (e.g., Altemeyer, 1988; Cronbach, 1955). Rebuttals noted that many of these criticisms were less than fatal and failed to differentiate superficial defects from major flaws (e.g., R. Brown, 1965, pp. 477-544), but one single, monolithic prejudiced personality seemed implausible in the face of these critiques.

The prejudiced personality is described in current work on prejudice but is often dismissed (e.g., Nelson, 2002; Reynolds et al., 2001). Monteith, Zuwerink, and Devine (1994) noted that in contemporary research on prejudice, active attempts to identify a prejudiced personality empirically are virtually nonexistent. Dijker and Koomen (2007) suggest that the individual differences are expressions of different ideological orientations, specific expressions of value orientations translated into social reality. This conclusion is consistent with meta-analyses and theoretical explication reported by Sibley and Duckitt (2008). Dovidio et al. (2005) state that "Allport overemphasized the role of personality in prejudice. . . . A more politically sophisticated psychology now emphasizes individual differences in adherence to group-based ideologies as accounting for individual's proneness to prejudice" (p. 14).

Active research on the prejudiced personality has declined for several reasons. First, even if we demonstrated there was a single prejudiced personality, there would still be a need to specify the motivational processes that linked it to overt behavior. At least in some theories, motivational processes are more proximal predictors of behavior than is personality, which presumably offers a higher level structural organization of multiple motive systems (e.g., G. W. Allport, 1966; Duckitt, 2005; Little, 1999). Second, critics identified potential problems of measurement and methodology. The usual definition of prejudice implies a relative comparison involving responses that are selective and differential. Prejudice is based on less positive reactions to out-group targets, relative to targets with in-group membership. Indiscriminate, nonselective negativity is not usually treated as prejudice. In his classic critique, Cronbach (1955; Gage & Cronbach, 1955) raised a similar issue in his treatment of accuracy in person perception. For example, a prejudiced anti-Semite might use overinclusive categorization and identify many people as Jewish and, in casting the overinclusive net, inevitably find a few persons who actually were Jewish. The biased perceiver would not be regarded as accurate, despite the few accurate classifications. However, this aspect of Cronbach's critique (generalized perceiver tendencies) was not developed in the subsequent literature as extensively as other aspects, perhaps because he focused on the validity of correspondence between a perceiver's judgment (e.g., "He is Jewish") and the actual state of the target ("I am/am not Jewish").

Cronbach's critique returns us to the coherence issue previously noted. From an empirical perspective, before asking

questions about the source of coherence (either as a syndrome or as components of larger systems) as a predictor of prejudice, it would be helpful to identify the criterion for coherence (Cronbach, 1955). How solid is the evidence that different prejudices systematically covary? The pervasive, quasi-pathological, psychodynamic prejudiced personality described by Allport may be a historical anachronism, replaced now by a modern menagerie of prejudices motivated by processes of more limited depth and scope (e.g., Monteith et al., 1994; Stone et al., 1993; but see Crandall & Eshleman, 2003; Sibley & Duckitt, 2008).

Assuming for the moment there are consistencies in persons across targets of prejudice, then the next challenge is to identify processes, general latent variables, and dimensions that might help explain them. First, in keeping with Cronbach's analysis, one possibility is that prejudice is associated with general social motives for evaluating all people. Some people may be biased toward seeing all (or most) people in a positive light, for maintaining good relationships with them, and for getting along and being liked. In Cronbach's analysis, this would reflect differences in "level" of evaluation. Second, prejudice could be related to motives directly through links to specific, differential, negative out-group attitudes (e.g., Saucier, 2000). In this approach, we might focus on motivational processes directly correlated with differentially negative attitudes toward members of specific out-groups, such as anti-Semitism. This was a main theme in the older authoritarianism and ethnocentrism form of prejudice.

Digging a bit deeper into motivation, Allport noted that some persons feel shame in recognition of their own prejudices. He linked this compunction to the psychological conflict between American social norms favoring equality and recognized biases against out-group members. This suggests that prejudice may be more pervasive than it seems from looking at simple self-reported attitudes. At least some people will monitor and selectively suppress the expression of certain prejudice because expressing such prejudices would be normatively inappropriate and undermine harmonious relations with others (e.g., Crandall & Eshleman, 2003; Devine, Monteith, Zuwerink, & Eliot, 1991; Dunton & Fazio, 1997). For these people, lower prejudice may reflect social motives and suppression of socially undesirable prejudices (Campbell, 1965; Olson & Fazio, 2009; Sherif, Harvey, White, Hood, & Sherif, 1961). That is, some people may report a positive bias toward others, and fewer prejudices toward out-group members, because they actively suppress negative evaluations. Others may be biased toward a negative view of people. This second group might be seen as less prejudiced than misanthropic.

If this analysis is correct, then a new set of motivational processes comes to the fore, namely, those associated with social accommodation (F. H. Allport, 1924). Social accommodation refers to the process of changing one's thoughts, feelings, and behaviors based on the actual, implied, or

imagined presence of others. This notion was central to G. W. Allport's definition of social psychology, so it is not surprising that accommodative processes would play an important role in his analyses of social relations in general (G. W. Allport, 1968). There are several conceptual reasons for exploring links among social accommodation, prejudice processes, and social motivation. First, social accommodation can be seen as an outcome linked to mediating motives. It is not a motivational variable per se but a product of motivational processes. Furthermore, social accommodation could be motivated by either normative or informational dependency (Jones & Gerard, 1967; Kelley et al., 2003; Sinclair, Lowery, Hardin, & Coangelo, 2005). For ease of exposition, we refer to social accommodation motives, but the focus is on the antecedent processes within an individual person that result in social accommodations. It is our position that the motivational system is not a single variable but a set of related processes. This makes it useful, however, as a tool for understanding potentially revisable consistencies in social reactions.

In keeping with F. H. Allport's (1924) approach, Graziano and Eisenberg (1997) noted that major behavioral and structural aspects of social relations can be explained by differences in the underlying motivation for maintaining positive relationships with others. That is, processes of prosocial motivation may be related to efforts to suppress normatively inappropriate prejudices as well as the diverse social behaviors associated with maintaining harmonious social relations (e.g., conflict tactics, cooperation, and social responsiveness). Ahadi and Rothbart (1994) suggested that social accommodation has its developmental origins in the temperament-based processes of control of frustration, specifically in the early-appearing temperament of "effortful control." Effortful control is defined as the ability to suppress a dominant response to perform a subdominant response (Rothbart, Ellis, Rueda, & Posner, 2003). It is a process related also to the ability to deploy attention strategically and to engage in positive interpersonal behaviors in the face of frustration (e.g., Jensen-Campbell et al., 2002; Kieras, Tobin, Graziano, & Rothbart, 2005). If we apply this construct to prejudice, we might speculate that the effortful control substrate of temperament can moderate or suppress the dominant affective emotions such as prejudice so that a subdominant, other-oriented empathic concern can be expressed and lead to the inhibition of the overt expression of prejudice.

Whatever its developmental origins, it is possible that social accommodation motives are related to prejudice, not necessarily through direct links to negative attitudes toward specific out-groups but through motives for maintaining positive relations with others (Sinclair et al., 2005). This reasoning implies that, at least in some people in some contexts, motives of prejudice may be dominant and allow the expression of discrimination, whereas in other persons the dominant

prejudice is present but suppressed, allowing other-oriented empathic concerns to appear and to inhibit discrimination (cf. Batson, 1991; Batson, Chang, Orr, & Rowland, 2002; Devine & Monteith, 1999; Towles-Schwen & Fazio, 2001, 2003).

If we assume that social accommodation motives are linked to prosocial motives, then social accommodation may be related to prejudice in one of four different ways. First, persons high in social accommodation motives may hold fewer prejudices than their peers because relative to the people around them they are more sympathetic and emotionally responsive to others, especially to others' distress (Graziano, Habashi, et al., 2007; Tobin, Graziano, Vanman, & Tassinari, 2000). Furthermore, they perceive others with a "leniency bias," finding positives even in persons with whom they are in conflict (Graziano, Jensen-Campbell, & Hair, 1996; Graziano & Tobin, 2002). In this approach, persons high in social accommodation motives are "traited for low prejudice," analogous to the way some people may be traited for prosocial tendencies (Penner, Fritzsche, Craiger, & Friefeld, 1995) because of the biasing processes that underlie their disposition toward getting along with others.

A second possibility requires a distinction between prejudice and negativity. This distinction suggests that prejudice cannot be assessed solely from examining differences in reactions to out-group persons but in differential reactions to out-group persons relative to in-group targets. It is possible that persons low in social accommodation motives may be less positive (indiscriminately) about other people in general. They may appear to be more prejudiced than their peers, but they are not, at least in the sense of *differential* discrimination. If this is correct, then persons low in social accommodation motives will be less positive about out-group targets than will persons high in such motivation, but raters low in social accommodation motivation may also be less positive about in-group members as well.

Third, persons high in social accommodation motivation may hold prejudices comparable to their peers, but prosocial motivation induces them to work actively to suppress the socially undesirable prejudices when interacting with persons for whom they experience prejudice (Crandall & Eshleman, 2003; Crandall et al., 2002; Dunton & Fazio, 1997; Sinclair et al., 2005). If this is true, then it implies that for persons high in social accommodation motivation, the private experience of prejudice may not always match their public expression and that across situations their expression of prejudice may be more variable than their peers (e.g., Tobin et al., 2000, Study 3). Furthermore, persons high in social accommodation motivation might appear to be less prejudiced against Jews and Blacks but still express prejudices when it might seem appropriate to do so (e.g., against "approved" targets such as child abusers and wife beaters; Crandall et al., 2002). In simple self-report surveys, in which suppression as well as prejudice may be operating, social

accommodation motives may appear to have no direct association with prejudice. In experimental work, however, differences between private experiences and public expression may be more apparent.

A fourth possibility is that persons high in social accommodation motivation hold more prejudices (or at least more socially approved prejudices) than their peers because of their other-oriented motivation, which contains within its definition many forms of group-directed behaviors. If this is true, then social accommodation is related to conformity and to the “normality of prejudgment” versions of prejudice described by G. W. Allport (1954, pp. 17-26). This fourth relation seems implausible in light of other associations with motives for maintaining positive social relations. However, in the absence of data, this option remains an open empirical question. Overall, the line of reasoning here suggests that prejudice may be systematically related to social accommodation processes because it is related to prosocial motives and to processes that bias individuals in their reactions to others, especially other persons who might be regarded as disadvantaged.

In summary of this section, several anomalies and curiosities are present in the literature on prejudice. These include basic questions of construct validity and in particular whether prejudice is primarily a matter of individual antipathy or a matter of interpersonal regulation and control. A further construct validity issue involves the one-dimensional nature of prejudice on a negative to positive affective continuum. Still other curiosities are the patterned consistency of prejudice, the nature of individual differences in prejudice, and the kinds of motives underlying biased reactions to others.

Prosocial Behavior and Helping

Theoretical speculation on prosocial behavior may be one of the oldest issues in the human written record (Genesis 4:17-19). Modern work in social, personality, and developmental psychology moved away from explanations built around theology and morality toward accounts involving social contexts and individual-focused motivational states (e.g., Staub, 2003). The research soon produced some empirical regularities but some anomalies as well. First, as in the prejudice area, construct validity issues generated controversy. Central to the controversy is the role of the actor's intent. Closely related to this issue is another construct validity issue, namely, the nature of empathy. Assessing intent in self and others is fraught with complexities and contains many opportunities for errors, bias, and self-deception (Wegner, 2002). Behaviors intended to benefit others are described as prosocial, but the motive may include adding benefits to the self. If the intent is to benefit the self primarily, then the motive generally attributed to the actor is egoism. Behaviors intended solely or even primarily to benefit others without regard to the self are described as having altruistic motivation.

Behaviors intended to benefit the self are easier to explain theoretically with proximal mechanisms, and to explore empirically, then are behaviors intended primarily to benefit others. Inherent in this construct distinction is the assumption that the self can be conceptualized separately from the other (Cialdini, Brown, Lewis, Luce, & Neuberg, 1997). In contexts in which prosocial behavior occurs, if the interests of the self cannot be separated from those of the other (e.g., merging of the self and other), then there is no basis for inferring altruistic motivation. The definitional distinction between self and others is crucial for identifying intent as altruistic (e.g., Batson, 1997) but not for identifying it as prosocial.

Several mechanisms can create overlap between the interests of the self and those of victims. One of these is empathy, a set of processes that has dispositional elements but can be elicited by situational cues. If empathy is defined primarily as taking the perspective of the victim and responding accordingly, then the interests of the victim and the self overlap (e.g., Cialdini et al., 1997). In Batson's (1991) empathy-altruism approach, the process is more complicated because the processes of empathy contain several different components. The self-focused component of empathy is the emotion of personal distress (PD), and it undermines helping, whereas the victim-focused component of empathy is the emotion of empathic concern (EC), and it promotes not only prosocial behavior but also altruistic behavior. This relation has been demonstrated in experimental studies that manipulate a third component, perspective taking (PT; also see Penner et al., 2008). Technically, in a multidimensional approach empathy refers to a set of related components that includes PD, EC, and PT (Davis, 1996). The last of these three provides a distinctively cognitive process that is relatively easy to manipulate experimentally (e.g., Galinsky, Wang, & Ku, 2008). In the typical experiment in the Batson empathy paradigm, operationally the affective processes of EC are elicited from research participants by manipulating their focus of attention (e.g., Coke, Batson & McDavis, 1978; Toi & Batson, 1982). The apparent anomaly here is that virtually all studies that have measured both PD and EC find that they are correlated positively, not negatively (e.g., Batson, O'Quin, Fultz, Vanderplas, & Isen, 1983; Graziano, Habashi, et al., 2007). Batson et al. (1983) attempted to address this problem with ipsative qualitative scaling. Because PD and EC are both present in participants, Batson et al. assign participants to conditions based on their “preponderant motive” (see pp. 711-712). Is a participant more self-focused than other oriented, or visa versa? We return to this issue later. For now, at a minimum Batson and his colleagues recognize the operation of two potentially opposing motives linked to avoidance and approach, but the processes tend to covary positively within persons.

Another set of curiosities involves overcompensation. Research in the prejudice literature shows that sometimes

research participants provide disproportionately large offers of help, assistance, or other benefits to out-group members than to in-group members (Dijker & Koomen, 2007; Gaertner et al., 1997, p. 169; but not always, see Kunstman & Plant, 2008). This is curious because the literature as a whole shows less liking for out-group members, and overbenefit outcomes suggest that some process other than (or in addition to) attraction is at work. At least two motivational processes may be involved in the outcome (S. L. Brown & Brown, 2006; Maddux, Barden, Brewer, & Petty, 2005; Petty, Brinol, Tormala, & Wegener, 2007; Vanman, Paul, Ito, & Miller, 1997). As noted previously, Pryor et al. (2004) found evidence of deliberative compensation. If Pryor et al. are correct, then overcompensation may be the result of two interdependent motivation processes that occur in sequence. In the specific cases studied so far, the reflective processes generally lead away from prejudice toward prosocial behavior. At least in theory, there is no prior reason to assume that reflective processes inherently lead to positive or prosocial action.

Another apparent anomaly comes from the Batson empathy-altruism model. The research literature provides strong support for the proposition that many (maybe even most) forms of helping are motivated by self-interest (Batson, 1991; Cialdini et al., 1987; Cialdini et al., 1997; Dovidio et al., 2006). What is controversial is the frequency (or even the existence) of altruism, helping motivated solely or primarily for the benefit of the victim. Batson (1991) argued that the motivation underlying most acts of helping is ambiguous because helping may promote the helper's own interests or can relieve the provider's distress as well as the victim's. One situation, however, allows for a clearer separation of helper's motives. If a potential helper can remove herself or himself from the helping situation, and if help is offered despite the easy avenue of escape, then altruistic other-oriented motives are now plausible. The logic beneath this line of reasoning is sound, yet support for the basic proposition is mixed. In some cases, the ease of escape seems to matter little. The logic implicitly biases interpretations against the altruism hypothesis because only one form of prosocial motivation—sole motive to help the victim—"counts." At the least, the inconsistency in the effectiveness of the easy-difficult escape manipulations is an anomaly.

Another phenomenon may not rise to the level of an anomaly, but it is curious. Often rates of helping are affected by the interval between provision of information and the request for help and the opportunity to provide it (Penner et al., 2005). Intuitively it would seem that some helping is impulsive (e.g., emergency helping), so overall rates of helping should be greatest immediately after a request or exposure to a victim. This seems not to be the case. Helping can be greater after a short delay than after immediate exposure or a request. Why this happens is not clear. Processes underlying impulsive helping may not capture the full range of processes at work, and impulsive helpers may be only a small segment

of the helping population (e.g., Penner & Finkelstein, 1998). More generally, helping situations may elicit more than one motive, and these may be differentially potent as time passes (Gaertner & Dovidio, 1977; Lamm, Batson, & Decety, 2007; for a related discussion of time and helping, see Isen, Clark, & Schwartz, 1976).

Another set of curiosities is associated with individual differences in motivation. The quests for the "prejudice personality" (G. W. Allport, 1954; Graziano, Bruce, Sheese, & Tobin, 2007) and the "altruistic personality" (Carlo, Eisenberg, Troyer, Switzer, & Speer, 1991; Graziano & Eisenberg, 1997, pp. 808-814; Penner et al., 1995) have long histories. That many individual differences moderate helping or prejudice is no longer controversial (Dovidio et al., 2005). More controversial is the generality of the impact of any given individual difference. For example, Pryor et al. (2004) found that prejudiced reactions to an HIV victim were moderated by individual differences on HATH (Heterosexual Attitudes Toward Homosexuals; Larson, Reed, & Hoffman, 1980). There was no evidence that HATH moderated prejudice against ex-convicts. Part of the problem is theoretical in that even within a given individual difference it is not clear precisely what mechanisms are responsible for mediation. Recently, Graziano and colleagues (Graziano, Bruce, et al., 2007; Graziano, Habashi, et al., 2007) proposed that a single mechanism links personality with helping and prejudice. The mechanism is the motivation for maintaining positive relations with others. We subsequently discuss this issue.

A final curiosity involves empathy as an emotion. Empathy is important because it is often assumed to be a mediator between situational influences and helping. As previously noted, empathy has complex construct structure consisting of both affective and cognitive processing (Davis, 1996; Lamm et al., 2007). Neuroimaging research suggests that empathic responses to victims activate in perceivers processes associated with the victims' affect, not with the sensory processes associated with pain per se (Singer et al., 2004). Even within the structural approach, empathic affect is further differentiated into a self-focused element and another-focused element. In some research, the cognitive component is manipulated to activate the affective components. Clearly, some plausible but unstated aspect of Batson's theory links PT only to empathic concern and not to PD (but see Cialdini et al., 1997). Furthermore, what is the affective valence of emotion once it is aroused? Is it primarily negative or positive (e.g., Davis, 1996, pp. 124-125; see also Sandvik, Diener, & Larsen, 1985)? Perhaps its initial activation is experienced as negative, but if help can be provided, it becomes positive. We subsequently discuss this.

Social Behavior and Sets of Motivational Processes

For pragmatic reasons, social behavior is often conceptualized at multiple levels of analysis. Penner et al. (2005) offer

a multilevel framework for helping that is instructive and potentially applicable to prejudice. They propose that helping can be conceptualized at the micro level, meso level, and macro level. The meso level involves analyses at the level of the individual person and is the level commonly seen in classic social psychology research (e.g., Batson et al., 1989; Schroeder, Dovidio, Matthews, Sibicky, & Allen, 1988). Meso-level helping behavior is often explained in terms of narrower processes at the micro level, such as empathic concern, PD, or intraindividual personality characteristics. At a minimum, the micro-level account of meso-level helping behavior aids the establishment of predictive regularity. The micro-level variables themselves may be subjected to further micro-level analysis to identify a mechanism underlying the predictive relations previously established (e.g., Decety & Batson, 2007). Inducing participants to take the emotional perspective of a victim (macro level) can induce empathic concern (micro level) in some people (micro level), and empathic concern is correlated with patterns of sequenced brain activity (Lamm et al., 2007). Similarly, personality variables associated with meso-level helping such as agreeableness are positively related to micro-level processes of empathic concern (Graziano, Habashi, et al., 2007). Relations that occur at the meso level are usually explained by the micro level, but the micro-level explanation loses value when it generates accounts that are inconsistent with the meso level. In terms of the principle of total knowledge (Sober, 2008), results cannot be incompatible across levels, but meso-level relations provide a broad map onto which the micro level adds refining details.

Graziano and Eisenberg (1997) proposed a link between a wide range of meso-level social behaviors and micro-level processes that involved both personality and motivation. In the first comprehensive review of agreeableness as a distinct psychological construct, they proposed that dispositional agreeableness could be defined in social-motivational terms. Specifically, they proposed that agreeableness indexed individual differences in the motivation to maintain positive relations with others. The original focus was intuitively placed on prosocial and communal behaviors such as helping, cooperation, and conflict reduction. Later, research made clear that some forms of antisocial behavior such as destructive conflict tactics (Jensen-Campbell & Graziano, 2001) and prejudice (Graziano, Bruce, et al., 2007) also could be connected to motives for maintaining good relations with others, in these cases in absentia. In general, many forms of complex social behavior may require on-line adjustment and self-regulation, neither of which is likely to be the outcome of only one process (Graziano & Tobin, 2009; Sober & Wilson, 1998, pp. 205-208). Despite their different emphases and focuses, and despite behavior genetic evidence that prosocial and antisocial systems may be different (e.g., Krueger, Hicks, & McGue, 2001), the specific meso-level social behaviors of prejudice and helping may both

include approach and avoidance and involve related dispositional processes.

As previously noted, some anomalies and curiosities within each of these two research literatures may be explained by applying a dual process model to fit both literatures. Furthermore, one component of the dual process involves agreeableness. Dual and multiprocess models are prominent in the literatures on social cognition (e.g., Sherman et al., 2008), prejudice (Duckitt, Wagner, du Plessis, & Birum, 2002; Pryor et al., 2004), and helping (Batson, 1991; S. L. Brown & Brown, 2006; Dijker & Koomen, 2007), but the processes may be more extensive than even these previously recognized (for a critical assessment of two system theories, see Keren & Schul, 2009). Third, further clarification of the apparent anomalies in the two literatures can be obtained using a dual process sequential opponent motivational system that incorporates processes underlying agreeableness.

One step toward integrating these diversion issues may be found in work by Dijker and Koomen (2007). They proposed an integrative approach to stigmatization that included two evolved, preverbal systems of motivation. Each of these two reflects human evolutionary history. The older component is a fight-flight system that we carry as part of our Paleoreptilian heritage. Encounters with "unusual cases" ("deviance" in Dijker & Koomen, 2007) activate this system without conscious deliberation, priming a system that impels individuals to flee from danger, or to fight if forced to do so. The second system is newer in evolutionary time and is part of the parental care system associated with kin selection (Eastwick, 2009; Hamilton, 1964; Trivers, 1972). Furthermore, the two motivational systems have the capacity to elicit characteristic emotions when exposed to certain specific environmental triggers. Because humans evolved in small groups of genetically related individuals, aggressive reactions to unusual cases had to be inhibited. Some of the unusual cases probably involved kin, for whom repair of deviance would be more beneficial than aggression or exclusion. The care system has the capacity to suppress the fight-flight system (see in particular Penner et al., 2008). There are reasons to believe in qualitative differences between these two systems. Control directed to suppression of unwanted and inappropriate responses seems to involve a process different from control directed to accurate assessment of the environment (Sherman et al., 2008).

The theoretical system presented by Dijker and Koomen (2007) may be expanded further to integrate it with the personality and social psychology literature on dispositional agreeableness. Let us assume that agreeableness is the psychological manifestation of the care system. If this is correct, then agreeableness may not only relate to sympathetic care giving for the weak and disadvantaged but also operate to suppress the responses associated with the more primitive fight-flight system. Some agreeableness phenomena may be fairly direct expressions of care, and others may be a product

of care-based suppression of fight–flight. Concretely, persons high in agreeableness may feel empathic concern directly for victims of misfortune (Graziano, Habashi, et al., 2007), but they may also suppress (perhaps effortfully) negative reactions to traditional targets of prejudice generated by their fight–flight system (Graziano, Bruce, et al., 2007).

Two Possible Models

Preponderant motive configural model. If evolution left humans with two different systems for responding to social variations, it is possible that they operate virtually independently or at least “preponderantly” relative to each other (e.g., Batson et al., 1983). In principle, it should be possible to identify configurations of persons who show high levels of processes from both systems, persons who show low levels of both, and persons with one system’s processes higher than the other’s. For ease of discussion and in keeping with Batson et al. (1983), let us label the two systems PD and empathic concern (EC). In theory, persons could vary from low levels of PD to high levels, and this would have no special predictive implications for knowing persons level of EC. EC would also vary from low to high independently of PD, so it is possible to create a 2×2 dimensional system. Quadrant I contains persons high in both PD and EC, Quadrant II contains persons high in PD but low in EC, and so on. Assuming PD undermines helping responses to victims but EC promotes it, persons in the four quadrants would have different dispositional, characteristic responses to victims. Persons in the high–high (HH) configuration would be socially and emotionally responsive to victims, whereas persons in the low–low (LL) configuration would be characteristically cold and indifferent. Persons high in EC and low in PD would be Batsonian altruists, whereas persons high in PD and low in EC would be characteristically emotionally responsive to victims but self-focused. One merit of this preponderance model is that it permits, in principle at least, differential predictions.

One major problem with this preponderance model for helping is that the empirical literature shows that EC and PD are not orthogonal, so the axes of the configural model would be oblique. That is, the empirical literature shows that EC and PD are positively correlated. In such a system, it is difficult (but not impossible) to partition the effects of one system from those of the other. Furthermore, this system will classify more persons as LL and HH than LH and HL because of the nature of the correlation between the two dimensions.

A second major problem involves specifying the mechanism that transforms configurations into overt behavior. For example, in persons who fall into the HH classification, what is the process that determines how the two motives are combined? It is possible that the configuration produced a qualitative difference in behavior relative to persons who score HL or LH. Another possibility is that the two motives remain separate modules and module-specific cues differentially activate them. In the absence of a translation mechanism,

the preponderance model is a descriptive classification system rather than an explanation.

Opponent process model (OPM). Taking the system a bit further past description, let us consider why PD and EC are correlated and some connections between the fight–flight and care systems. Let us assume that both fight–flight and care systems are present in almost all people (but at varying strengths) because of our evolutionary history that capitalized on the possibility that caring responses can in some circumstances confer some advantages. Following the logic presented by Dijker and Koomen (2007), caring would be especially advantageous for organisms living in proximity to genetically related individuals. fight–flight impulses need to be checked when they might undermine Hamiltonian inclusive fitness. This line of reasoning suggests that the care system is not a mere evolutionary add-on but is an evolutionary corrective on fight–flight to the needs of communal living (Eastwick, 2009).

Let us assume that fight–flight occurs faster than care on exposure to an environmental oddity because the former is tied closely to stimuli that signal danger. Nevertheless, the two may operate as opponents to each other’s main responsive activation tendencies. If so, we can generate explanations for apparent paradoxes and anomalies. In the helping context, PD may inhibit prosocial acts because it is part of fight–flight, not care. EC promotes helping because it is part of care. Despite having opposite effects on helping, both PD and EC are present in most people, explaining the positive correlation. If this conjecture is correct, then PD is the first response to a victim because it is connected to the older but faster fight–flight system (cf. activation component in the QUAD model; Sherman et al., 2008). When there is an opportunity for easy escape from the victim at the time PD is high, then the victim will not receive help. If escape cannot occur quickly, or if the observer must remain in proximity to the victim, then enough time may pass for the newer but slower EC system to become active. Its activation would suppress the fight–flight system and increase chances the victim would receive help. This account would explain why outcomes of research on ease or difficulty of escape are unstable. The key variable—the time interval between exposure to the victim and the window of opportunity for escape—is unmeasured in that literature.

Going one step further, the system we describe may be a special case of the opponent process approach to motivation presented by Solomon and his colleagues (Solomon, 1980; Solomon & Corbit, 1974). In searching the published literature, we could locate only two applications of the Solomon opponent process approach to either helping or prejudice (Baumeister & Campbell; 1999; Piliavin, Callero, & Evans, 1982). In both cases, the focus of attention was primarily on Solomon’s opponent explanation for cycles of addictive behavior. In keeping with Solomon’s construct labels, the first process activated is labeled State A. Its activation is

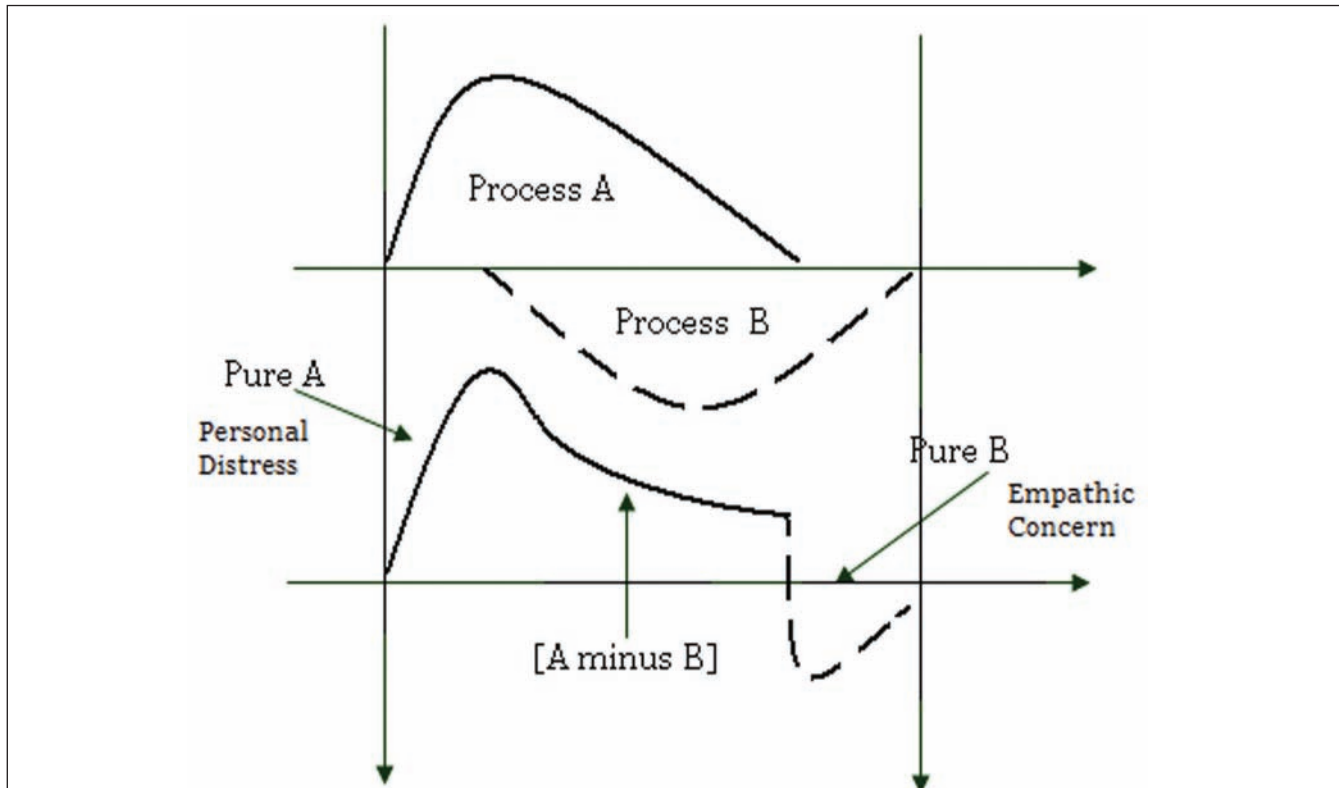


Figure 1. Opponent process model of motivation.

Source: Piliavin, Callero, & Evans, 1982.

virtually automatic, a kind of unconditioned response to the onset of an environmental stimulus. The top half of Figure 1 illustrates that it remains active while the evocative stimulus is present and ends when the stimulus is removed. The second process activated is an opponent, labeled State B. It is slower to come on line but persists well after State A ends. The bottom half of the figure illustrates the resultant state when both processes are operative. States A and B are opponents, but A occurs first and more quickly in response to an environmental event. For some, brief part of the sequence, State A operates in almost pure form (without an opponent). Concretely, if State A is PD and State B is EC, then the first response to a victim should be unopposed PD. If escape is possible in this interval, the victim will not receive help. By the same logic, initial reactions to unusual cases (e.g., victims of misfortune) as well as to members of out-groups would be PD and avoidance. With time, however, State B will be activated, opposing the processes of State A. These opponent processes may be what Pryor et al. (2004) index in their behavior correction research on stigmatization. Initial negative reactions are displaced by more positive ones.

The OPM is dynamic and includes a mechanism for the transformation of affect following repeated exposure to evoking conditions. Specifically, with repeated exposure to an evoking stimulus, State A decreases in magnitude but

State B increases. Repeated exposure to drugs such as cocaine produces less of a “rush” of euphoria, and the duration of positive affect is lessened. At the same time, the negative affect of withdrawal increases in intensity and duration. Because the first state is an opponent of the second state, the former can alleviate the negative affect of the later. With repeated exposure, the cocaine user’s main motive is transformed. The primary goal becomes the elimination of the aversive second state rather than seeking the euphoric rush of the first state. We now have the mechanism for an addictive cycle. The specific mechanism that underlies this cycle is conditioning of cues associated with the onset of State A with State B. That is, State B occurs earlier and earlier in repeated exposure because the cues associated with the onset of State A trigger the activation of State B sooner and sooner. When it occurs earlier, the resultant outcome is not only a lessened State A but an amplified State B.

If we assume that PD and EC are opponents and that they operate as described in the OPM, then new theoretical lines of enquiry are opened. The first reaction to a victim is PD, and it represents State A. It remains in place until the evocative cues associated with the victim remain present. The opponent process, State B, is EC. It is slower to occur and is activated by the onset of State B. As EC becomes active, it effectively subtracts affect from PD, but may not eliminate it

entirely. If the cues associated with the victim are removed, either through the action of others or through escape from the setting, PD will be greatly reduced, but EC will remain operative but will return slowly to baseline. With repeated exposure to victims, PD will be transformed to a reduced state and EC will be transformed to an amplified state.

A parallel analysis applies to the operation of prejudice. The initial reaction to out-group members is a form of PD, and it represents State A. It remains in place until the evocative cues associated with the out-group member remain present. The opponent process, State B, is akin to EC. It is slower to occur and is activated by the onset of State B. As EC becomes active, it effectively subtracts affect from PD but may not eliminate it entirely. If the cues associated with the out-group member are removed, either through the action of others or through escape from the setting, PD will be greatly reduced, but EC will remain operative but will return slowly to baseline. With repeated exposure to out-group members, State A (PD) will be transformed to a reduced state and State B (EC) will be transformed to an amplified state.

What Is Gained With an OPM? First, this opponent process approach sheds some light on several of the anomalies noted previously. There is a positive correlation between PD and EC within persons, despite their opposite influence on helping, because they are part of the same system. They may have opposite effects on helping behavior because they work as opponents to each other. Furthermore, it should be possible to show both the undermining effects of PD and the promotive effects of EC, possibly within the same persons, because they both occur in most people, but at different places along a time line. If the opportunity for providing help appears relatively soon after exposure to a victim or a request for help, assistance would be less than if the opportunity appeared relatively later. That is because PD occurs early and fast whereas EC happens slower and later.

Another anomaly is the inconsistency with which ease of escape affects patterns of helping. The OPM suggests that the impact of the ease or difficulty of escape will be related to the timing of the opportunity for providing help. When the opportunity to provide help occurs soon after exposure to the victim and escape is easy, rates of helping will be lower than when the opportunity to provide help appears later. That is because PD will be at higher levels early in the sequence, and ease of escape provides a salient way to avoid an aversive state. When the opportunity for help appears later, however, even with easy escape PD will be waning and EC will be in ascendancy.

This OPM may help explain why the personality dimension of agreeableness is related to both helping and prejudice. At the intuitive level, it makes sense that people who are motivated to maintain good relations with others would be both prosocial and less prejudiced. Empirical evidence suggests that the links among agreeableness, helping, and prejudice are more complicated than intuition alone implies.

The agreeableness–helping relation is sensible in part because individual differences in agreeableness are highly related to EC but are largely unrelated to PD (Graziano, Habashi, et al., 2007; Habashi & Graziano, 2009). The process presumed to promote helping covaries positively with agreeableness, but the process that undermines helping is not systematically related to it. PD is related instead to an entirely different dimension, neuroticism. What makes this connection more interesting is the relation between agreeableness and prejudice. In general, persons high in agreeableness are more positive about more social groups than are their peers who are low in agreeableness (Caprara, Alessandri, Di Giunta, Paneri, & Eisenberg, in press; Graziano, Bruce, et al., 2007; Sibley & Duckitt, 2008). This makes sense if persons high in agreeableness are motivated to maintain positive relations with others. However, the same people who appear so positive interpersonally can turn negative selectively against out-group members when given minimal justification for being negative (Graziano, Bruce, et al., 2007). Taken together, these patterns suggest that persons high in agreeableness are not merely positive from disposition-based reflex but are actively suppressing some of their negative reactions to others. The OPM suggests that suppression is derived from motivational system tied to EC. If the suppression system could be “disabled” through distraction or cognitive load in persons high in agreeableness, then many of their positive social behaviors would be diminished, including helping and being unprejudiced (cf. Sherman et al., 2008).

Second, our OPM redirects the theoretical focus of both helping and prejudice. One of these focal issues involves the transformation of psychological states resulting from repeated exposure to certain situational cues (e.g., Yovetich & Rusbult, 1992). Solomon asserts that repeated exposure to the evocative (unconditioned) stimuli produces systematic changes not only in the relative strengths of State A and State B but also in their qualitative characteristics. Using the example of a drug such as cocaine, repeated exposure induces State A to become weaker and State B to become stronger. Qualitatively, State A ceases to be a euphoric experience, and State B becomes more distressing. The prototype illustration is drug addiction, in which repeated exposure to substances such as cocaine creates smaller and shorter states of euphoria and longer states of withdrawal. In the present application, repeated exposure to victims of misfortune and to out-group members should lead to smaller and shorter periods of PD and, at least in theory, to longer states of pro-social reactions and EC.

For Solomon and Corbit, the transformation process was a product of an association that developed between the onset of State A and the activation of State B. In effect, State B becomes classically conditioned to cues associated with the onset of State A. Consequently, with repeated exposure State A need not run its full course before its opponent is activated. Applying this to our helping illustration, other things being

equal, repeated exposure to victims should diminish PD but enhance EC. This is consistent with the research on developmental precursors of heroic helpers (e.g., Oliner & Oliner, 1988), but not all persons experience the supposedly same environment in the same way (Biesanz, West, & Millevoi, 2007) and sequences of events matter. In studies on sustained long-term helping, different variables become important to the process later in the sequence, however it might have been initiated. Penner et al. (1995) note that issues of self-efficacy, personal competence, and mastery come to the fore. Issues of emotional control seem to be associated with helpfulness, and these issues could override the EC that motivated the helping in the first place. Yet another possibility is selective loss of helpers over time in longer term helping studies.

Comparisons With Other Models

The OPM might be seen as a specialized version of existing adjustment-correction models in social-cognitive psychology. Adjustment and corrective process models share certain attributes, and we discuss areas of overlap between these models and contrast them with the distinctive properties of the OPM. Here, we briefly consider two models that focus on general social-cognitive processes, namely, the set–reset model (Martin, 1986; Martin & Achee, 1992; Martin, Seta, & Crelia, 1990) and the flexible correction model (FCM; Petty et al., 2007; Wegener & Petty, 1997). Next, we consider a more comprehensive general model of social cognition. Finally, we consider three models that focus on the social-cognitive processes underlying either helping or prejudice.

General Adjustment-Correction Models. The three models discussed here assume that persons engage in adjustment following an initial judgment if there was reason to suspect that the initial judgment was somehow biased. Adjustment is in the service of accuracy. It is assumed that perceivers are motivated to hold veridical beliefs about a person or object. Thus, perceivers are motivated to adjust initial biased beliefs toward a subsequent belief that has greater verisimilitude. In general, bias is a result of some irrelevant situational variables, personal variables such as transient mood states, or salient beliefs that disrupt accurate judgments. Bias, the tendency for the evaluation of the target to be altered systematically by irrelevant variables, commonly occurs as assimilation (making judgments more congruent with the irrelevant variables) or less commonly as contrast (making judgments less congruent with the irrelevant variables).

Set–reset model. Operating within these assumptions, Martin's (1986) set–reset model proposes that judgments about people and objects can be mixed, with both positive and negative elements. (Schwarz and Bless, 1992 proposed an inclusion–exclusion adjustment model that is similar to Martin's set–reset model. For purposes of explication, only

the set–reset model is discussed here.) Because judgments are made in contexts that themselves carry positive and negative elements, perceivers can mistake their reactions to targets, assimilating them into reactions to the context. This is called “setting.” If perceivers realize that their judgments are influenced by context, they will attempt to adjust to be more accurate. Perceivers sometimes subtract the effects of context from their evaluation of the target, leading to a “correction” away from the irrelevant variables. If the correction is too great, however, accuracy is lost and the correction efforts lead to bias, but in a direction opposite to those of setting, toward contrast. This is called “resetting.” Martin proposed that resetting required more cognitive effort than setting, so setting should be more common than resetting. In circumstances in which perceivers have the ability or inclination to engage in effortful thought, resetting is more likely. Participants higher in need for cognition are more likely to reset than those who are low (Wegener & Petty, 1995).

When we apply the set–reset model to prejudice or helping, we see initial reactions to out-group members or victims of misfortune are likely to be “set” by irrelevant variables in the context. If perceivers have the opportunity, ability (e.g., high need for cognition), or inclination to suspect bias, then they will attempt to reset. The default, however, is assimilative bias. Presumably, the most dramatic cases of set–reset would occur when the irrelevant context contains many cues that contradict negative reactions to out-group members or victims. Perhaps winning a lottery in the company of many out-group members would lead to “setting” toward less prejudice. On the other hand, once the potential bias was detected it might lead to adjustment and “resetting.” Missing from this model is a mechanism that explains when resetting is triggered (other than awareness) or how it is maintained in the face of pressures toward the default of assimilation. Even then, it is not easy to construct many helping or prejudice scenarios that meet the requirements for set–reset, at least in its more dramatic forms. This social-cognitive model is probably not applicable in any direct way to the more complex interpersonal processes of helping or prejudice without several added assumptions.

FCM. The FCM (Wegener & Petty, 1997) overcomes some of the potential limitations of the set–reset model. FCM explicitly rejects the idea of a single default direction for adjustment favoring assimilation of judgments toward contextual information. Because there are individual differences in the motivation and ability to identify sources of bias, perceivers will differ in their tendencies to generate naïve theories of biases associated with salient factors. The perceiver does not have direct access to processes or evidence affecting the bias, and the choice of an explanatory theory itself can be affected by situational factors. If the perceiver is unable or unwilling to detect bias, no adjustment is made. If bias is detected, then adjustments are made flexibly based on the assumed direction of bias offered by the naïve theory.

FCM can be applied to adjustment of stereotypic prejudice judgments (e.g., Wegener, Clark, & Petty, 2006), but its applicability to helping decisions is less clear. In principle, FCM could be used to generate both greater and lesser ECs for victims over time, depending on the sort of naïve theory the perceivers could be induced to hold. If perceivers could be induced to activate a naïve theory that they were too self-centered in their initial reactions, then their corrective adjustment would be toward EC. The OPM offers a less intuitive, unidirectional prediction. When perceivers have the ability and opportunity to make them, adjustments to the initial reaction both to victims of misfortune and to potential targets of prejudice are changed toward more EC and less prejudice.

Comprehensive Dual and Multiprocess Model. One of the most common forms of dual process models involves automatic versus controlled processes (Chaiken & Trope, 1999; Sherman et al., 2008). Automatic processes are often assumed to operate outside of awareness, and they require relatively few cognitive resources. Once they are activated, they are likely to run their course. Controlled processes are often assumed to require intent and active engagement of cognitive resources. As Sherman et al. (2008) note, contemporary dual process models tend to focus on one or the other of the two processes, but there is a general recognition that the two processes are qualitatively different.

The QUAD model (Sherman et al., 2008) is one of the most comprehensive multiprocess social-cognitive models to date, so direct comparisons between it and the opponent model are instructive. The four processes in the QUAD model are activation (A), detection (D), overcoming bias (OB), and guessing (G). These processes operate probabilistically, but not necessarily in temporal sequence (p. 317). Processing parameters do operate conditionally, however, based on each relevant preceding parameter. The behavior used to illustrate the operation of QUAD is the “shooter bias,” the enhanced likelihood of pulling the trigger on a gun in response to Black suspects, even when the suspect holds a harmless object. In this domain, there is a correct and incorrect response—shoot only when the suspect has a gun and is pointing it at police—and the four processes of QUAD can be used to predict these correct–incorrect responses. The first process, association activation, occurs when a Black or White face may (AC) or may not (1-AC) activate stereotypical associations. The second process is detection, in which the perceiver may (D) or may not (1-D) accurately detect the presence of a gun versus a cell phone. If the activated associations are incompatible with an accurate detection, then the correct response depends on the next process, overcoming bias (OB). If OB occurs, then the correct response is made more likely. If the associations are activated but not overcome, then the associations will determine behavior, leading to correct responses on compatible trials and incorrect responses on incompatible trials. A final structural component

is added, namely, guessing. If no response is activated and a correct response cannot be determined, then the perceiver must guess (G).

The OPM differs from QUAD in proposing an explicit temporal sequence, with an explicit pattern to the onset and offset of each of the two processes. The first process, State A, is tied more closely to the onset and offset of an environmental trigger, whereas the second process (State B) is not. An additional difference is that there are no clear correct or incorrect responses in helping that are analogous to the shooter bias. If we move from conceptual issues to the empirical support for the QUAD model, however, there are several points of congruity between the two models. Neuroimaging data suggest that the activation process described in QUAD may be connected to activity in the amygdala and insula, which are involved in emotional processing and arousal (Eisenberger, Lieberman, & Satpute, 2005). This is the pattern we would expect from the activation of the fight–flight component described by Dijker and Koomen (2007) and perhaps feelings of PD in the OPM. Similarly, the detection process described in QUAD is associated with activity in the dorsal anterior cingulate cortex and the dorsolateral prefrontal cortex. These in turn have been linked to inhibitory control over prepotent responses. This is the pattern of activation we would expect from the care component in Dijker and Koomen and perhaps the feeling of EC in the opponent model.

In discussing areas of application, Sherman et al. did not discuss the domain of helping and prosocial behavior. They did, however, identify one prosocial domain for special attention: individual differences in motivation to respond without prejudice. This particular domain illustrates the difference in the ways QUAD characterizes the key variables in comparison with the OPM. Sherman et al. applied the QUAD model to data from a weapons identification study by Amodio, Devine, and Harmon-Jones (2008) using a preponderant motive approach. That is, participants can be classified into one of four quadrants in a 2 (internal vs. external source) \times 2 (low vs. high intensity) grid. Participants who were high in internal motivation and also low in external motivation to avoid prejudice showed less implicit bias than did other participants. The QUAD analyses showed that these high internal–low external participants showed less activation of biased association and were better able to detect appropriate and inappropriate responses in overcoming bias.

The OPM offers a different conceptualization. First, it would grant that there are individual differences in motivation related to prejudice but would not require two different dimensions working in configuration or even preponderance. The predictive dimension would be agreeableness and its associated motives for maintaining positive relations with others. In terms of process, prejudice toward out-group members originates in an initial negative reaction to unusual or unexpected cases and fight–flight. This is the State A

reaction that would characterize all participants, not just those who were low in internal motivation to inhibit prejudice. Because the OPM is sequential, State B is triggered before State A runs its course, and the earlier it is triggered following the onset of State A, the less prejudice will be expressed, at least in its pure, unopposed form.

Dual and Multiprocess Models Focused on Prejudice or Helping

Dual process model of prejudice. Reports of the death of research on personality and prejudice have been premature. Sibley and Duckitt (2008) located and meta-analyzed 71 studies ($N = 22,068$) investigating links among Big Five personality dimensions, right-wing authoritarianism (RWA), social dominance orientation (SDO), and prejudice. Prejudice was predicted primarily by two dimensions of personality: agreeableness and openness. These two dimensions are differentially related to domains of prejudice. Low agreeableness was related to generalized negativity toward a wider range of social categories (as in Graziano, Bruce, et al., 2007), whereas low openness seemed to be linked more closely to sexism (for details, see Sibley & Duckitt, 2008, pp. 268-269). Furthermore, agreeableness was related to prejudice through its negative relation with SDO, whereas openness was related to prejudice through its negative relation with RWA, suggesting that these latter two variables are derived from different motivational bases. Outcomes and interpretations were consistent with earlier work by Duckitt and his colleagues (Duckitt, 2001; Duckitt et al., 2002), who proposed a two process model involving RWA and SDO. This is a dual process in the sense that biased evaluations of others can originate from two distinct sources. The sources do not necessarily operate as opponents or in sequence. The construct of care-empathy is not part of their system. At this time, this approach primarily provides an integration of classic work on prejudice. It is not clear how this particular approach would explain prosocial behavior and helping, other than in specialized cases that could include prejudice (e.g., differential helping to in-group vs. out-group members).

Aversive racism. Another multiprocess approach involves new forms of racism. As Sears (2005) and others have noted, racism appears to have evolved into new forms since the pioneering descriptions of G. W. Allport (1954). The newer versions bear various labels such as “symbolic racism,” “modern racism,” or “subtle prejudice.” These different forms of racism are assessed with similar questions and overlap considerably as constructs. Arguably the most prominent exemplar of new racism models is associated with “aversive racism” (Dovidio & Gaertner, 2004). Aversive racism is a result of a cognitive process of categorization and at least two motivational processes, the latter two of which can on occasion oppose each other, creating intrapsychic conflict. The categorization process can foster in-group versus out-group and anti-Black bias, which presumably has been acquired

over time through social learning. Whites may experience conflict acknowledging these feelings, in part because some of these feelings may not be accessible, and in part because they are socially undesirable. The source of the social undesirability is because of conflict with another motivational process that supports egalitarian values. When anti-Black feelings confront egalitarian values, some Whites may experience discomfort in interacting with Black people and may try to disengage. If interaction cannot be avoided, these Whites follow social rules scrupulously, or even overcompensate by responding more favorably to Blacks than Whites. Work on aversive racism anticipates ambivalent behavior and occasionally outright avoidance of out-group members in certain people. It shares with the OPM the notion of self-regulatory systems, with behavioral outcomes as a product of multiple motives operating in some cases in opposition.

Our OPM differs from aversive racism, however, in several important ways. First, it could be argued that aversive racism is a description of a behavioral outcome rather than a process. In keeping with Allport, the aversive racism theorists would counter that there is indeed a process underlying the behavioral outcome: It is shame or guilt. The OPM proposes something different. The correction has less to do with norm conflict and guilt and more to do with internal transformation of motive states. Second, OPM offers a more nuanced account of the transformation of motivational basis of control as it unfolds over time. That is, OPM proposes that with a single exposure to an out-group member State B processes eventually supplant State A processes. There is a second sense of the process being transformed over time. That is, with repeated exposure to several out-group members, State A decreases and the corrective State B increases. Despite making outcome predictions similar to OPM, aversive racism does not elaborate on how motivational processes come into conflict or transform over time. Third, OPM points to personality differences such as agreeableness and ease of aversive conditioning as variables that are not anticipated by aversive racism. Finally, and most importantly, aversive racism was designed to explain one class of interpersonal behaviors, namely, out-group discrimination. The OPM, however, is broader in scope, encompassing not only issues of out-group discrimination but also behavior in a variety of interpersonal situations, including prosocial behavior. In fairness, aversive racism was not designed as a theory of prosocial behavior and helping.

Selective investment theory (SIT). Turning to models focused on prosocial behavior, S. L. Brown and Brown (2006) offer a close-relationships-centered theory that can be interpreted as a multiprocess motivational model of altruism. SIT proposes that human bonds evolved as an overarching emotion regulation system to promote reliable, high-cost altruism among persons who are interdependent. The system is characterized as a “memory complex,” with cognitive, emotional, and neurohormonal elements. One interpretation of this theory is that

egoistic motives may be checked by altruistic motives when certain environmental cues are present. Cues associated with kinship would be one set of cues, but there are others. Brown and Brown argue that cues associated with behavioral synchrony—mutually supported, coordinated action—may underlie many of the effective cues. For present purposes, the important point is that social bonds moderate the “fight–flight” reaction for self-preservation when, say, a mother sees her child suddenly attacked by a predator. SIT is similar to the Dijker and Koomen (2007) approach, but the latter focuses more closely on the characteristics of the victims that determine what kinds of help, if any, they will receive. SIT does not discuss prejudice *per se*, but if helping were conceptualized as a matter of social categorization and social bonding, predictions would be inferred.

Although SIT shares with OPM the focus on interpersonal processes, these two theoretical approaches differ in several critical ways. First, SIT focuses on costly long-term investments, whereas OPM is concerned with a full range of prosocial and discriminatory behaviors. Second, the central proposition of SIT is that fitness interdependence is necessary for costly long-term investments. That is, SIT provides a distal explanation for greater prosocial behavior directed at kin than at nonkin. It is not intended to address behavior directed toward unfamiliar others without the prospect of future interaction. OPM, on the other hand, provides a detailed process that can apply to situations with both familiar and unfamiliar others. Finally, in SIT the primary unit of analysis is the social bond. Instead, OPM emphasizes internal motivational processes and their transformation.

Conclusion

Overall, the general process models outlined previously seem better suited to explain social-cognitive aspects of prejudice than helping, much less to provide integrated accounts of interpersonal behavior such as prejudice and helping. In moving to focused models, we see that explanations are narrower, but again they are typically designed to explain prejudice or helping, but not both. Looking at the domains of prejudice and helping separately, the OPM offers a considerably different overall approach to the domain of prejudice regulation than do the other models. First, OPM implies that most forms of prejudice regulation are internal, in the sense of a single psychological system operating within an individual person. This claim does not deny, of course, that some forms of prejudice reduction are in the service of impression management and social desirability motives (e.g., Sears, 2005). It merely asserts that these later forms of prejudice reduction are part of an entirely different interpersonal system of psychological variables. Second, it implies that the main forms of prejudice control appear after an initial prejudiced reaction in most people and that it is a form of inhibition. If this is correct, then the timing and sequencing

of the assessment of prejudice will be a key variable in understanding prejudice reaction. Third, the OPM implies that once an initial State A prejudiced reaction is activated, disrupting the subsequent State B inhibitory processes would disinhibit prejudice in people who might be otherwise motivated to be free of prejudice. Fourth, the OPM offers a more dynamic picture of individual differences in motivation to inhibit prejudice. Individual differences may reflect dispositional differences in the latency between the onset of State B following State A or the relative intensity of these two states rather than the absence of the entire State A or State B components.

Novel Implications

The opponent approach raises important questions about the conceptual status of large individual differences such as agreeableness, the decomposition of molar social behavior into constituent components, and the role of time in the expression of complex social behavior. Regarding the first of these questions, temperament researchers (e.g., Rueda, Posner, & Rothbart, 2005) argue that each individual is born with an emotional core and is prepared for a life trajectory by a set of inherited tendencies and motivation systems. People learn about others (including out-group members) as they move through these trajectories, but what are they learning (Biesanz et al., 2007)? Evidence suggests that most people are selective in information processing in these situations. Regarding prejudice, Livingston and Drwecki (2007) demonstrated that some individuals are less likely to acquire negative affect to neutral stimuli in classical conditioning and are more likely to acquire positive affect to neutral stimuli. Individual differences in the most basic forms of conditioning have been known at least since Pavlov's time (Strelau, 1998), but Livingston and Drwecki demonstrated that these differences are related to the strength of anti-Black prejudice. This finding is impressive because the identification of nonbiased Whites was based not on self-report but on actual nominations by African American acquaintances.

Evolution may have left humans with two powerful motive systems in fight–flight and care (S. L. Brown & Brown, 2006; Dijker & Koomen, 2007; Eastwick, 2009), but there are probably individual differences in the relative strength of fight–flight and care motivation. Observers might detect and label these socially important behavioral differences as neuroticism and agreeableness, respectively (Habashi & Graziano, 2009). At this point, we might be satisfied to build structural models or collect data showing intercorrelations among variables such as care, agreeableness, and some other disposition such as self-esteem. Such an approach would grossly underestimate the dynamic quality of the processes, their major dispositional inputs, and probably the range of influence of the individual difference under consideration. That being said, repeated exposure to certain kinds of

environmental events alters the basic parameters of the inherited dispositions and motives.

Regarding the second question, the expression of complex social behavior such as helping is almost certainly the outcome of several different but related systems. When the systems operate at the same time, one system may reduce the influence of another. In the OPM, the influence of State A is much reduced once State B is activated. From observing a single episode of helping or prejudice, a researcher might conclude that a single process is operative, but it is likely that the process is better studied only by observing the operation of the components over time.

Linking the affective components of empathy and the personality dimension of agreeableness to interpersonal behaviors and to more general self-regulatory processes (Graziano & Tobin, 2009) is novel. For this reason, many questions remain unanswered. Is agreeableness tied to the care system only or to fight-flight as well? Is it tied to both PD and EC, to both prejudice and the suppression of prejudice, or to just one of these elements in each pair? We believe that the opponent process approach to agreeableness allows us to anticipate phenomena that cannot be found elsewhere. Here, we offer a few tentative ideas.

To the best of our knowledge no empirical research has addressed the issue of delayed helping (but see Penner et al., 1995). In general, a common assumption is that the influence of a manipulation of victim need, mood state, or EC will dissipate for most or all people over time. That is, rates of helping are affected by the interval between provision of information and the request for help and the opportunity to provide it. Note the analogue to the correction of prejudice outcomes reported by Pryor et al. (2004). If the opponent process system operates roughly as described here, then some forms of helping may be greater after a short delay than they are following an immediate request. The initial fight-flight reaction may come under the control of the opponent care system, in effect disinhibiting helping with time. Undoubtedly, we would also see characteristic emotions, such as relief at finally having an opportunity to provide assistance. Based on the previous rationale, we would also expect persons high in agreeableness to offer more help, sooner and with less influence of delay, than persons low in agreeableness. At this point, such conjectures are speculative. Whatever outcomes do appear, it is clear that major motives underlie helping and prejudice, and they are linked to dispositional variables associated with maintaining positive relationships with others. Understanding the dynamics of these motives will play a role in our deeper understanding of interpersonal processes.

Finally, an opponent process approach offers an additional perspective to two substantive areas that arguably have become focused on a narrow set of issues. In the helping area, researchers dedicated a great deal of time and effort to questions about egoism versus altruism. Accounts have

become increasingly sophisticated (e.g., S. L. Brown & Brown, 2006). In the prejudice area, a similar charge could be made about focusing on implicit versus explicit biases (e.g., Sinclair et al., 2005). Undoubtedly, these are important issues, but they certainly do not exhaust the list of key variables, and they contribute to the segregation of the two substantive areas. Narrowly focusing on any small set of questions automatically narrows the scientific understanding of the complexity of human sociality. Perhaps it is time to reconsider the processes and variables we investigate.

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