

The Flexible Correction Model: Bias Correction Guided by Naïve Theories of Bias

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Abstract

Psychological researchers have examined a broad array of biases and shortcomings of social perceivers. Less attention has been paid to how people react when they become concerned about the possibility of bias and attempt to correct or overcome the potential for bias. An early approach was to think of bias correction as “subtracting” information or reactions that are identified as coming from the biasing factor instead of the target. An alternative approach is to conceptualize bias correction as guided by social perceivers’ naïve theories or perceptions of the bias at work. The subtraction theories were designed to deal with the assimilative biases typical of early priming experiments, but theory-based corrections can readily deal with either assimilative or contrastive biases. We describe both types of correction theories, with a focus on the empirical support for theory-based correction (and especially for the Flexible Correction Model). We also identify future directions for research on theory-based correction.

People can be biased even when they are motivated to develop accurate views of their social world. They can be biased by subtle features of their environment, such as primed concepts (Higgins, Rholes, & Jones, 1977; Srull & Wyer, 1979) or features of contextual stimuli (Chien, Wegener, Hsiao, & Petty, 2010; Herr, 1986). They can be biased by pre-existing beliefs or attitudes, such as prejudice (e.g. Allport, 1954). Numerical judgments can be biased by incidental or random anchors (starting points for judgment; e.g. Blankenship, Wegener, Petty, Detweiler-Bedell, & Macy, 2008; Simmons, LeBoeuf, & Nelson, 2010). Biases occur across important everyday contexts such as hiring or performance evaluations (Olian, Schwab, & Haberfeld, 1988; Sczesny & Kühnen, 2004) or the evaluation of evidence in court cases (Stebly, Hosch, Culhane, & McWethy, 2006). There are many challenges for attempts to remove or reduce bias. For example, people often tend to see bias in others but not in themselves (Pronin, Gilovich, & Ross, 2004).

Even so, previous research suggests that people sometimes suspect the potential for bias and try to remove biases from their judgments (Higgins et al., 1977; see Wegener & Petty, 1997). We focus on these kinds of settings in the current review. Early research focused on biases from priming experiments and proposed that people might subtract (partial) reactions or information from their mental representation of the target person or object (e.g. Martin, 1986; Schwarz & Bless, 1992). Those subtraction-based approaches suggested that corrections would reduce assimilation and might create contrast away from the concepts or categories if over-correction occurred. However, an alternative view suggested that corrections were more flexible in their direction and that they depended on perceivers’ beliefs or theories of the type of bias they were encountering. These notions were captured by the Flexible Correction Model (FCM; Petty & Wegener, 1993; Wegener & Petty, 1995, 1997; see also Strack, 1992; Wilson & Brekke, 1994).

Our review focuses on the FCM (theory-based) approach and the data supportive of that perspective. In service of that goal, we provide some background on the subtraction-based views and discuss differences between the subtraction approaches and the FCM approach. After discussing current support for theory-based correction, we discuss future directions for research.

The Backdrop of Heuristic Bias

In many settings, biases have been conceptualized as due to the use of heuristics or shortcuts to judgment as a means to make complex situations more cognitively manageable (e.g. for reviews of research on heuristics and biases, see Gilovich, Griffin, & Kahneman, 2002). From this point of view, one route to overcoming bias might be to motivate social perceivers to think more carefully about the judgment target and, in some situations, this approach is effective in overwhelming the biasing factor with more substantive information (Petty, 1994). However, in many contexts, an increase in the depth of processing does not insulate perceivers from bias. Indeed, when available information is relatively ambiguous (as is often true in everyday life), increasing motivation or ability to think can simply create more thoughtful forms of bias. For example, when information in a persuasive message is ambiguous instead of clearly strong or weak in its implications, source effects can be just as large when processing is high rather than low. The effects are just mediated by different mechanisms (Chaiken & Maheswaran, 1994; cf. mood effects in Petty, Schumann, Richman, & Strathman, 1993). Similarly, when information about the target person is ambiguous, an increase in ability to think about the target can simply create more thoughtful stereotype-consistent judgments (Wegener, Clark, & Petty, 2006). In these cases, the increase in thought not only fails to reduce the bias, but it creates a version of the bias with more lasting impact (Wegener et al., 2006; cf. Blankenship et al., 2008).

The notion of depth (or amount) of processing is related to, but not synonymous with the distinction between automatic and controlled processing (Bargh, 1994). Effortful thought about a target person or object would often be controlled, but many automatic processes might still come into play – such as use of automatically activated attitudes or stereotypes to interpret and scrutinize information about the target. Similarly, low-effort use of heuristics might sometimes be automatic but could also include controlled use of the heuristic as a means to simplify the judgment (see Wegener et al., 2006, for additional discussion).

When simple increases in amount of thinking are not enough to remove bias, what is? Over the last 20–25 years, a number of social psychological theories have been developed to address such questions. In the broadest sense, these theories fit into two categories: subtraction and theory-based correction approaches.

Subtraction Theories

A foundational effect in social cognition is the assimilative impact of activated concepts on the encoding of information and subsequent judgments of a target person (Higgins, 1996). That is, when a concept or category is activated prior to receipt of target information, judgments of the target person become more similar to the concept or category primes than if the concept or category had not been activated. For example, Higgins et al. (1977) primed the traits of adventurous/persistent or reckless/stubborn by asking participants to name the color of the background of slides containing words related to the traits. Then they described a target person, Donald, as engaging in behaviors that were ambiguous with regard to whether they were adventurous/persistent or reckless/stubborn (e.g. risked injury, and even death, a number of times; only rarely did he change his mind even when it might well have been

better if he had). Donald was judged as more adventurous and persistent when those traits were primed rather than the traits of reckless and stubborn.

Soon after researchers identified priming effects in impression formation, researchers suggested that the typical effects of priming would not always occur. For example, Strack, Schwarz, Bless, Kubler, and Wänke (1993) manipulated whether research participants were reminded of the primes before making target judgments. They found assimilation to the primes when people were not reminded of the previous prime exposure. However, when people were reminded of the previous primes, participants contrasted judgments away from the primes – they made more positive target judgments following negative primes than following positive primes.

The set–reset approach

An early theory that addressed such effects was the set–reset approach (Martin, 1986; Martin, Seta, & Crelia, 1990). *Setting* is the default treatment of reactions to both the target and context (i.e. the primes) as if they were reactions to the target. In the persistence priming example, this would suggest that thoughts of the target person being persistent would, by default, be attributed to the target person. The set–reset approach treats such default processes as occurring when social perceivers are relatively unmotivated or unable to think carefully about the target.

However, when motivation and ability to think are sufficiently high, *resetting* is hypothesized to occur. That is, social perceivers partial out (subtract) reactions that are perceived to be reactions to the context rather than the target. Resetting also depends on the primes being blatant enough for people to identify their reactions as responses to the primes rather than the target (Martin, 1986). Because people can be confused over which reactions are responses to the context versus the target, resetting can result in over-subtraction of real reactions to the target, producing contrast away from the primes. More accurate resetting could remove assimilation without producing contrast. Because resetting (correcting) includes an additional processing step beyond setting, the set–reset approach suggests that resetting-based contrast effects require more cognitive effort than setting-based assimilation effects (Martin et al., 1990).

The inclusion–exclusion model

The inclusion–exclusion model (Schwarz & Bless, 1992, 2007) is similar to the set–reset approach in several ways. Both models describe assimilation as resulting from a mental representation that contains both elements of the target and the context. Also, both models conceptualize subtraction (partialing) of part of the representation as a mechanism to create contrast. However, the focus of the inclusion–exclusion model is on how accessible information is used (Bless & Schwarz, 2010). *Inclusion* of information in one's representation of the target is generally the default and results in assimilation of target ratings to the context. *Exclusion* of information from one's representation is generally hypothesized to require a blatant prime and greater cognitive effort (Schwarz & Bless, 1992), though this might depend on the reason for the exclusion (Bless & Schwarz, 2010). Information can be excluded because it fails to pass one of three filters. The information could be deemed as failing the *relevance filter* because it comes from a source other than the target, such as previous priming stimuli. Information could fail the *representativeness filter* because it is perceived as atypical or not representative of the target. This could occur because there is little overlap between the context and target features or the ranges of possible values that the context and target

can take on along the relevant dimension of judgment (e.g. Chien et al., 2010; Herr, 1986). Finally, information could fail the *conversational norms filter* if it seems to violate norms of providing and using non-redundant information (Schwarz, Strack, & Mai, 1991).

The inclusion–exclusion approach differs from the set–reset approach in that context effects are not only driven by changes in the representation of the target. When information is excluded from the target, it can also be used as part of the standard against which the target is judged. Therefore, in the inclusion–exclusion model, exclusion reduces assimilation and can result in contrast if information is over-subtracted from the target representation (similar to reset-based contrast) *or* relatively extreme excluded information is used as a standard of comparison against which to judge the target.

Theory-based Correction

Contrastive biases away from a prime or context can occur in a variety of settings. For example, contrast can occur if people focus on the dissimilarity between the context and target (Mussweiler & Damisch, 2008) or when there is lack of overlap in the interpretive ranges of the context and target (Chien et al., 2010; cf. Herr, 1986). Can people correct for these types of biases, or only for the assimilative biases addressed by the subtraction theories?

The flexible correction model

The FCM was designed, in part, to address corrections for contrast alongside the corrections for assimilation that had been addressed by the subtraction approaches (Petty & Wegener, 1993; Wegener & Petty, 1995, 1997). The FCM is built on the idea that social perceivers' naïve theories of the bias at work play a key role in correction. Previous researchers had focused on the frequent inaccuracy of lay beliefs about bias and the inadequate adjustments people made when using these beliefs (e.g. Nisbett & Wilson, 1977; cf. Wilson & Brekke, 1994). However, the FCM suggests that social perceivers often use their theories of bias when attempting to arrive at “correct” or otherwise appropriate judgments.

According to the FCM, people possess or generate perceptions of the bias(es) at work, and these perceptions guide efforts at formulating perceptions of the target that serve current goals. There are a number of specific ways the FCM differs from the subtraction approaches (see Wegener, Dunn, & Tokusato, 2001; Wegener & Petty, 1997). First, the FCM assumes that default (uncorrected) biases can be either assimilation or contrast and can stem from any of a number of processes. This is consistent with research suggesting that the contexts can create assimilation or contrast effects without necessarily involving correction processes in either of these effects (Chien et al., 2010; Förster, Liberman, & Kuschel, 2008; Herr, 1986; Mussweiler & Damisch, 2008). This differs from the traditional assumptions of the subtraction approaches in which assimilation was treated as the default.

Another difference is that the FCM is so named because there is flexibility in the direction of corrections. Perceivers' theories of bias can suggest that either assimilation or contrast biases are occurring, so corrections can therefore go in either direction. In the subtraction approaches, corrections (resetting or exclusion) always move judgments away from assimilation. Recent descriptions of exclusion processes have noted that exclusion might sometimes occur quite automatically, so the resulting contrast effects might be considered default rather than “corrected” (Bless & Schwarz, 2010). Even in these cases, however, the inclusion–exclusion model does not provide any mechanisms by which “default” exclusion-based contrast effects might be corrected. Though sometimes reasonably accurate, at least in terms of the direction of bias, naïve theories need not reflect the direction or magnitude of the actual bias. Of note,

inaccurate theories can result in corrections that fail to remove the prevailing bias or that overshoot accuracy and create the opposing bias (Wegener & Petty, 1995, 1997).

In the FCM, correction attempts occur when the person is both motivated and able to identify potential biases and to engage in the correction, though practiced corrections can become more efficient (Wegener & Petty, 1997; cf. Maddux, Barden, Brewer, & Petty, 2005). The FCM also specifies that corrections can be motivated by goals other than accuracy (e.g. a goal to uphold the law, Fleming, Wegener, & Petty, 1999; enhance one's self esteem, McCaslin, Petty, & Wegener, 2010; or avoid appearing prejudiced, Fazio, Jackson, Dunton, & Williams, 1995; Plant & Devine, 1998). Finally, consistent with contemporary theories of persuasion (Petty & Wegener, 1998), the FCM holds that judgments based on more effortful corrections are likely to last longer over time, resist change, and guide later judgments and behaviors better than judgments based on less effortful attempts at correction (Wegener & Petty, 1997).

Empirical evidence

The FCM was intended to be a general model of bias correction, and one might be tempted to interpret the flexibility in direction of correction and the allowance of different types of default biases as creating a model that cannot be falsified. Yet, the FCM is no less falsifiable than the subtraction theories or any number of other theories in social psychology. The FCM ties the flexibility in direction of correction to the perception of the bias that the person holds and specifies conditions in which different types of corrections are more versus less likely. If measures or manipulations of theories of bias were found to be routinely uncorrelated with corrections, were found to relate in directions inconsistent with theory-based corrections, or were found to relate only in conditions when correction was not supposed to occur, then the FCM would constitute a poor model of bias correction. Fortunately for the FCM, results have been reasonably consistent with the approach.

A number of specific types of results support the FCM. The presumed flexibility in corrections begins with the demonstration of different directions of theories of bias. For example, most people believe that a context of attractive women would make an average-looking woman seem less attractive (contrast) but that the same attractive context would make products endorsed by the attractive women seem more desirable (assimilation; Wegener & Petty, 1995, Study 1; cf. Chien & Hsiao, forthcoming). Because of this, corrections for these perceived biases can move judgments away from assimilative biases or away from contrastive biases depending on the target rated (Wegener & Petty, 1995).

Corrections for contrast. Because the subtraction models do not provide a mechanism for the correction of contrastive biases, corrections for perceived contrast biases have been important for documenting the utility of theory-based corrections (Petty & Wegener, 1993; Wegener & Petty, 1995). In one early study of correction for contrast, Wegener, Petty, and Dunn (1998, Study 2) asked research participants to consider two targets ambiguous in their level of hostility (i.e. Arnold Schwarzenegger and George Foreman). Before rating the targets, participants were asked to rate either three extremely violent people (i.e. Adolf Hitler, Josef Stalin, and Saddam Hussein) or three extremely non-violent people (i.e. the Pope, Jesus Christ, and Gandhi). If setting or inclusion processes had been at work, the targets could have been assimilated to the context people. However, because the context people were extreme, default contrast was expected (cf. Chien et al., 2010). Participants either rated the two target people immediately after the context people (No correction condition) or were first asked not to let the context influence their perception of the targets (Correction instruction condition).

The results showed opposite directions of correction across the two contexts. For participants who had rated the extremely violent people before rating the targets, target ratings were more violent when there was a correction instruction than when there was no correction instruction. However, for participants who had rated the extremely non-violent people before rating the targets, target ratings were less violent when there was a correction instruction than when there was no correction instruction. The corrections were reasonably accurate for the violent context but tended to overshoot accuracy in the non-violent context such that the corrections produced assimilation to the non-violent context compared to a no-context control condition. More recent data from our labs suggest that corrections for contrast can be elicited without experimenter instructions. When elicited by stimuli in the judgment setting instead of by the experimenter, corrections for contrast are more likely when people become aware of the potential for bias *and* are sufficiently motivated to think carefully about the target information (Chien, Wegener, Hsiao, & Petty, 2014; cf. Priester, Dholakia, & Fleming, 2004).

Theories predicting corrections. A number of studies support the notion that theory-based corrections are guided by both the direction and magnitude of the perceived bias. That is, when asked not to be influenced by a context, people correct in different directions when they hold theories of opposite biases (across targets, Wegener & Petty, 1995; across contexts for the same target, Wegener et al., 1998; or for different people who encounter the same context and target, Wegener & Petty, 1995). People correct for perceived biases even when there are no real biases (e.g. Petty, Wegener, & White, 1998; Wegener & Petty, 1995). Corrections for perceived rather than actual bias also mean that people sometimes correct primarily for one perceived bias (i.e. the bias that is most salient or the one associated with a clear theory of bias) even if other biases are operating (Szczesny & Kühnen, 2004).

People also correct in different amounts when they perceive the bias to be relatively large rather than small. For example, Wegener and Petty (1995, Study 4) used research participants' ideographic theories of bias obtained at the beginning of the study to predict their shifts from a no-context rating provided weeks earlier to the corrected rating produced after rating the context items and receiving an instruction not to let the context influence their target ratings. In addition to the direction of the perceived bias predicting the direction of the correction, the magnitude of the perceived bias also influenced the size of the corrections. That is, when larger biases were perceived, larger corrections were made (cf. Chien et al., 2014; Dunn, 1997; Liu, 2004).

Motivation and ability (to think and to correct). Initial studies of theory-based correction have often prompted corrections by directly asking people not to be affected by particular contextual factors (in order to demonstrate the impact of theories on the resulting corrections; Petty & Wegener, 1993; Wegener & Petty, 1995). These instructions would likely enhance motivation and ability to identify biases as well as motivation to engage in corrections. However, some studies that did not use such instructions (e.g. because the biases were more blatant and could be readily identified without the instruction) examined motivation or ability to think about the judgment target. In these studies, corrections consistent with naïve theories of bias were more likely with generally high levels of thinking (e.g. DeSteno, Petty, Wegener, & Rucker, 2000; Isbell & Wyer, 1999; Petty, Demarree, Brinöl, Horcajo, & Strathman, 2008; Szczesny & Kühnen, 2004). Although the observed corrections were consistent with the expressed theories of bias, it is difficult to unambiguously attribute the corrections to the theories of bias per se, because perceptions of bias were only measured at the normative level, and individuals' theories of bias were not tied to individuals' corrections.

The most recent research connecting individuals' theories of bias and corrections was conducted by Chien et al. (2014). In this study, research participants made a context-free rating of McDonald's fast food restaurant (the target brand). A few weeks later, participants participated in a pair of seemingly unrelated studies. In one, a series of questions measured theories of bias on a variety of topics. One addressed how thinking about a Mercedes-Benz sedan would influence perceptions of the prestige of McDonald's fast food restaurant (i.e. making McDonald's seem less versus more prestigious than if no Mercedes-Benz sedan was considered). In a second study with a different experimenter, some participants encountered an article meant to get them to consider the possibility of bias. In the article, a business case was presented in which Burger King restaurants were located in two different shopping malls – one with high-price stores and brands (such as Hermes and Chanel), one with moderate-price stores and brands (such as Timex and Asics). No particular bias in perceptions of the Burger King was described, but participants who received the article normatively identified the likely bias of the high-price brands as contrast. Before receiving the focal context (Mercedes-Benz ad) and target (McDonald's ad), participants were told that they would be individually responsible for evaluating the materials (high motivation; cf. Petty, Harkins, & Williams, 1980) or received no such instruction (low motivation).

In the Chien et al. (2014) data, theories of bias significantly predicted the differences between no-context and in-context ratings only when motivation to think was high and participants had received the bias alert article. The relations showed that perceptions of greater contrastive bias predicted more positive/less negative shifts in target judgments. In all other conditions, relations between theories and judgment shifts were weak and non-significant. This pattern also held true when restricting the analyses to participants who reported theories of no bias or contrastive bias. Because these analyses compared differing amounts of perceived bias rather than differences in direction, the results are consistent with different magnitude of correction based on different perceptions of the amount of bias (cf. Wegener & Petty, 1995).

Future directions for research on theory-based bias correction

Research has produced findings consistent with theory-based correction in diverse domains including attribution (Gawronski, 2004), courtroom judgment (Fleming et al., 1999; Wegener, Kerr, Fleming, & Petty, 2000), impression formation (Lambert, Khan, Lickel, & Fricke, 1997; Wegener et al., 2006), and persuasion (Chien & Hsiao, forthcoming; Kang & Herr, 2006; Petty et al., 1998). Biases to be corrected have included context effects (Petty & Wegener, 1993; Wegener & Petty, 1995), mood and emotion (Isbell & Wyer, 1999), stereotypes (Lepore & Brown, 2002; Sczesny & Kühnen, 2004), and individual differences (McCaslin et al., 2010). Yet, there is much to be learned about theory-based corrections.

Future research could provide more direct evidence of the links between individuals' perceptions of bias and their corrections. An observed relation between individuals' theories of bias and the observed corrections constitutes the primary measure of whether theory-based correction occurred. However, evidence of such links is still accumulating. The only published data documenting this link used stimuli that would typically create contrast and used theories of bias reported prior to the study to predict shifts from context-free judgments to post-correction judgments (Wegener & Petty, 1995). Some unpublished data have linked reported theories of bias to shifts from uncorrected (in context) judgments to corrected judgments and have done so for stimuli that would typically be associated with assimilative theories of bias (see Dunn, 1997, for theory-based corrections of facial feedback effects; Liu, 2004, for theory-based corrections of mood effects). These and other examples of

ideographic theories of bias predicting corrections would lend additional support for theory-based correction. The Chien et al. (2014) data are helpful in that they involve perceptions of contrastive bias (where subtraction processes have not been applied).

Without the link between ideographic theories and corrections, it is often ambiguous whether a particular correction for assimilation might have involved subtraction instead of theory-based correction. Even if normative theories of a bias are assimilative, one does not know whether the theories of bias were used in the correction. It is also important to note, however, that subtraction processes cannot be assumed any more than theory-based corrections. In part, this is because there are no process-level measures of subtraction to document the operation of those processes (see Wegener, Silva, Petty, & Garcia-Marques, 2012, for additional discussion). Some inclusion–exclusion research attempts to distinguish between simple subtraction effects and standard-of-comparison effects by examining the range of judgments that are affected (see Schwarz & Bless, 2007), but no direct measures of exclusion have been developed. Such measures would help to document the role of subtraction alongside theory-based correction.

It could be that either subtraction or theory-based correction would dominate. However, sometimes the processes might work in concert. For example, even if subtraction occurs in settings that involve assimilative biases, it could be that theories of bias would still relate to the corrections. For example, the naïve theory might help to identify the bias or guide the subtraction (e.g. how much subtraction should take place might be determined by the perceived extent of bias). Alternatively, theories of bias could influence whether a particular piece of information is perceived as failing a particular filter (such as relevance or representativeness).

In addition to co-occurring, the two approaches might operate in sequence. For example, if people are not successful in identifying particular thoughts to subtract, they might focus on a more global perception of bias and engage in theory-based correction. Alternatively, if people cannot retrieve a trustworthy theory of bias, they might subtract individual thoughts that seem associated with the context. Future research investigating what determines the use of subtraction versus theory-based correction, or whether the two approaches co-occur or operate in sequence would help to create a more integrated view of bias correction.

Future research would also benefit from attempts to study how people identify potential biases (Wegener et al., 2012). People might often use accessible or salient theories of bias to search for potential biases. However, there could also be other cues to potential bias. For instance, prior experience with the target might make one notice that one's perceptions of the target have changed, and this might alert one that bias is possible. Alternatively, noticing that there is a factor in the situation that matches the valence of one's current view might prompt one to consider whether that factor produced the reaction (see Wegener et al., 2001, for additional discussion).

It seems likely that some types of biases might be encountered often and result in repeated attempts at correction. In such cases, we believe that bias correction might become routinized (less effortful), and this could occur even if the initial attempts at correction started as a thoughtful, resource-intensive process (see also Wegener & Petty, 1997). It becomes a matter of definition and level of analysis as to whether a routinized correction is considered as the same correction process as a more effortful version that might have been its original form (see Wegener & Carlston, 2005). Some relatively automatic processes have been previously described as corrections (e.g. Glaser & Banaji, 1999; Maddux et al., 2005), but there are no published data demonstrating that practice at corrections can influence the extent to which the corrections require motivation and cognitive resources.

There are some initial indications that the type of psychological process that led to the bias might influence the likelihood or efficacy of correction. For example, in the stereotyping

domain, general instructions to avoid any biases that people notice (without identifying the bias) result in significant corrections of nonthoughtful forms of stereotyping but not in corrections of more thoughtful forms of stereotyping (Wegener et al., 2006). This could be, in part, because the thoughtful impressions of the target seem more justified and defensible (less biased) even if the judgments are just as influenced by the stereotype. It could be that the more thoughtful biased perceptions become more integrated with related knowledge (Schul & Burnstein, 1985) and seem to provide an accurate reflection of the (thoroughly processed) available information. In essence, then, social perceivers may be more confident in the validity of their judgments when amount of processing is high (or when perceived amount of processing is high; Barden & Petty, 2008). When this occurs, the person may be less motivated to engage in correction, and the bias might also be harder to eradicate if correction is attempted (Petty & Wegener, 1993; Wegener et al., 2006). In addition to the amount of processing that goes into an uncorrected (biased) target perception, confidence in one's judgment could be influenced by a variety of other factors, such as direct experience with the target (Fazio & Zanna, 1978), accessibility of the target judgment (Holland, Verplanken, & van Knippenberg, 2003), or the amount of available information on which to base one's judgment (Koriat, Lichtenstein, & Fischhoff, 1980; see Rucker, Tormala, Petty, & Briñol, 2014, for a review).

The FCM suggests that, for bias correction to occur, people should be motivated and able to identify biases and be motivated and able to make corrections. Future research might examine the separability of ability and motivation to identify biases as compared with ability and motivation to make corrections. Conceptually, it seems that there are situations in which people identify potential biases but are not motivated or able to correct for them (such as grandparents knowing that they are positively biased toward their grandchildren but seeing no reason to avoid such biases). Ability and motivation factors might also play different roles and be affected by different antecedent variables in identification of bias versus correction for bias. For example, people might have the ability to identify biases due to availability/accessibility of bias-related knowledge but lack ability to apply this bias knowledge to make corrections due to limited time or distraction. Yet, previous studies have not separated the motivation and ability to identify bias from the motivation and ability to engage in the correction. Thus, there are a variety of interesting questions left to study.

Short Biographies

Yi-Wen Chien's research is focused on marketing, consumer behavior, and consumer psychology. She has authored or co-authored papers in *Journal of Consumer Research*, *Journal of Consumer Psychology*, and *Management/Marketing-related Journals* in Taiwan. Her recent research interests include consumers' bias correction processes and context effects in product judgments. She is teaching at National Taiwan University. She holds a BBA in International Business from National Taiwan University, an MBA from Carnegie Mellon University, Pittsburgh, and a PhD in Consumer Behavior from Purdue University, West Lafayette.

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Richard Petty is distinguished university professor and chair of the Department of Psychology at Ohio State University. He received his BA from the University of Virginia and his PhD from Ohio State University. Petty's research focuses on the situational and individual factors responsible for changes in attitudes and behaviors. He has published eight books and over 300 research articles and chapters. Petty is a fellow of the American Academy of Arts and Sciences, the American Association for the Advancement of Science, the Association for Psychological Science, Divisions 1, 3, 8, 23, and 38 of APA, and four other societies. His honors include the Scientific Impact Award from the Society of Experimental Social Psychology and the Distinguished Scientific Contribution Awards from the Societies for Personality and Social Psychology and Consumer Psychology. He is past editor of the *Personality and Social Psychology Bulletin* and former President of the Society for Personality and Social Psychology and the Midwestern Psychological Association.

Chung-Chiang Hsiao's research is located at consumer attitude formation and change. He has authored or co-authored papers in *Journal of Consumer Research* and marketing-related journals in Taiwan. His recent research interests include the joint effects of multiple contexts and consumers' self-activated judgmental correction. He is teaching at National Taiwan Normal University. He holds a BBA in International Business from National Taiwan University, an MBA from Carnegie Mellon University, Pittsburgh, and a PhD in Consumer Behavior from Purdue University, West Lafayette.

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