

CHAPTER 12

Knowing Our Emotions

How Do We Know What We Feel?

GERALD L. CLORE
MICHAEL D. ROBINSON

When thinking about the world, we recognize that some of our knowledge reflects belief rather than experience (e.g., that Africa is a continent). Because the self is a subjective entity, we may not recognize how beliefs contribute to what we think our experiences are. Yet self-knowledge is likely to have important blind spots. Just as with the blind spot on the retina, missing information is not perceived as missing because it is automatically “filled in” by plausible inferences.

Does the same apply to knowing our emotions? Since emotions are experienced directly, the idea that our beliefs contribute to what we think our emotions are may seem implausible. But even in the case of self-knowledge about emotion, we contend that beliefs subtly enter the picture. More specifically, people sometimes report about their feelings on the basis of beliefs about them rather than experiences of them. We review multiple phenomena consistent with this point. We then introduce an explanation, present research testing the explanation, and discuss implications for understanding how the self functions and the implications for personality–social psychology and other fields that routinely assess how people feel.

Feelings and Beliefs: Two Sources of Information about Emotion

People have both actual feelings and beliefs about their feelings. These sources of information often diverge, and in this chapter, we review research on situations in which this is the case. Specifically, we highlight conditions under which beliefs trump feelings in self-reports of emotion. An example concerns people’s reports of their experiences of pleasure when driving a luxury car.

Does Luxury Deliver Pleasure?

Many people want to own luxury cars. Owning and driving such cars would presumably result in more pleasure when driving. Schwarz and Xu (2011) sought to document this belief by asking undergraduates how much they would enjoy driving a BMW (a high-priced car), a Honda Accord (a midpriced car), or a Ford Escort (a low-priced car). As might be expected, respondents expected to feel more pleasant feelings (e.g., happy, thrilled) when driving a more expensive car and more unpleasant feelings (e.g., depressed, frustrated) when driving a cheaper car. The investigators then asked members of a sample of university faculty and staff and another Web-based sample how they generally felt when driving their own cars. The cars were classified into value categories comparable to the BMW, Honda Accord, and Ford Fiesta. These results, too, suggest that there is more joy and satisfaction in driving a luxury car than an economy car, with pleasure varying linearly with the value of the car.

These results sound reasonable, but the picture changes when the reports are based on actual driving episodes. In addition to asking about their usual feelings when driving, the experimenters also asked the university faculty and staff specifically about their feelings while driving to work earlier the same day. Web respondents were asked to recall the most recent trip of 20 minutes or more in their car. They indicated the purpose of the trip and how they felt while driving. In neither dataset was there any relationship between the pleasantness of the driving experience reported and the value of the car. These results of general and specific reports thus seem to contradict each other.

The key to Schwarz and Xu's (2011) results is that people's reports of their feelings and emotions reflect whatever information is accessible at the time. And since actual subjective experience is ephemeral (Tulving, 1984), it is accessible only as current experiences or recent memories. Such experiential data are not available when reporting how one *expects* to feel or how one *usually* feels. This general conclusion about the relative accessibility of feelings and feeling-relevant beliefs turns out to be a powerful one, applying to not only the role of facts about one's car but also facts about oneself, as we see next.

Research on Emotion and Gender

Are women more emotional than men? Responses to general self-report questions about emotion consistently show that they are. Women are more likely to describe themselves as having frequent emotional reactions (Robinson & Johnson, 1997) and as being emotionally expressive (e.g., Kring, Smith, & Neale, 1994). They are more likely to see themselves as emotional individuals (Spence, Helmreich, & Stapp, 1975), to recall emotional memories more quickly and frequently (Davis, 1999), and to report experiencing emotions more intensely (Seiditz & Diener, 1998). Women also score higher on measures of emotional awareness (Barrett, Lane, Sechrest, & Schwartz, 2000), and they report ruminating more about negative personal experiences (Nolen-Hoeksema, Parker, & Larson, 1994; Wood, Saltzberg, Neale, Stone, & Rachmiel, 1990). With respect to particular emotions, women report more shame and guilt (Tangney, 1990) and more empathy (Robinson, Robertson, & Syty, 2002), whereas

men report more pride (Stapley & Haviland, 1989). Should we conclude from such highly consistent results that women are more emotional than men? Perhaps, but the evidence comes mainly from studies tapping the beliefs that men and women have about themselves, rather than from studies of current, direct experience.

More specific studies of emotion present a very different picture. Although we expect women to be more empathic than men, measurements of actual behavioral and physiological reactions of empathic distress fail to show such stereotypical differences (Eisenberg & Lennon, 1983). Indeed, men often show greater physiological reactivity to current emotional stimuli than do women (LaFrance & Banaji, 1992; Manstead, 1992).

Research has also examined the stereotype that men feel more anger and pride, and women, more guilt and sympathy (Robinson, Johnson, & Shields, 1998). Investigators have compared reports collected immediately after an emotion-inducing task, a week later, or after only imagining doing the task. The results showed that self-reports reflect the relative accessibility of experiential information. Immediately afterward, men and women look the same; a week later they look different. Gender differences also emerged when respondents merely imagined how they would feel. So men's and women's emotions appeared to differ only when actual experiences were relatively inaccessible (a week later) or completely inaccessible (when imagining feelings). More generally, studies show gender differences in emotion mainly in verbal reports as opposed to other measures (LaFrance & Banaji, 1992), in retrospective as opposed to current reports (Shields, 1991), and in answers to general rather than specific questions (Eisenberg & Lennon, 1983). Global self-reports show large gender differences in emotionality, emotional intensity, openness to emotion, anxiety, and interpersonal warmth (Barrett, Robin, Pietromonaco, & Eysell, 1998), but daily reports right after emotional events show no gender differences at all.

Other Individual Differences

Studies have also examined other individual differences by comparing online and retrospective reports. The general conclusion is that retrospective reports appear to be contaminated by beliefs about the self relative to *actual* experiences in everyday life. For example, Larsen (1992) found that the trait of neuroticism predicted retrospective reports of somatic distress to a greater extent than online reports of somatic distress. Barrett (1997) found that neuroticism predicted retrospective reports of negative emotion to a greater extent than experience-sampled reports of negative emotion. Oishi (2002) found that Asian Americans reported less positive emotion than European Americans in retrospective reports but not in online reports. Other findings of this type may be cited (Robinson & Clore, 2002a), but they converge on similar conclusions.

Recently, clinical psychologists have also become interested in such dissociations. In an empirical review, Strauss and Gold (2011) examined the idea that people with schizophrenia are emotionally *anhedonic*—that is, deficient in their emotional reactions. They found that this appeared to be true when research designs asked people with schizophrenia to report retrospectively on their emotions, to report their emotions in trait terms, or to report their emotions in response to hypothetical

scenarios. Yet this apparent deficiency in emotional reactivity was largely if not completely absent in studies in which people with schizophrenia were asked to report their momentary emotional experiences. The authors thus questioned the widespread view that schizophrenia is *actually* associated with anhedonia.

Further Considerations

People seem to possess some beliefs about their happiness that are not supported by empirical research. For example, people say when asked that they would be happier if they lived in states associated with mild climates (e.g., California) relative to colder climates (e.g., the Midwest). Participants reported that they would, but in fact life satisfaction does not vary as a function of such climates (Schkade & Kahneman, 1998). In another study, individuals were asked to report how happy they would be (prospective reports), were (online reports), and had been (retrospective reports) when on vacations (Mitchell, Thompson, Peterson, & Cronk, 1997). It was quite clear that vacations were less pleasant when actually experienced than beforehand, when the vacation was anticipated or when reports were retrospective. Similar dissociations have been reported in the affective forecasting literature (Wilson & Gilbert, 2005).

As is well known, Bartlett (1932) suggested that memory is reconstructive. With the passage of time, a shift from relatively veridical memories to relatively schematic or stereotypical ones can be observed. Recent cognitive literatures have converged on Bartlett's insights. After trying for many years to bypass general knowledge structures in characterizing memory, investigators were forced to admit defeat (McClelland, McNaughton, & O'Reilly, 1995). They came to the conclusion that there are two memory systems, one centered in the hippocampus and another in the prefrontal cortex. The hippocampal memory system is good at storing recent experiences, but poor in characterizing long-term trends in experience. The prefrontal cortex memory system has the opposite set of characteristics (e.g., it is slow to update). The schematic "fill-in" processes posited by Bartlett have been documented in recent neuroimaging studies (e.g., Smith & Muckli, 2010). In relation to such findings, we suggest, it may be naive to assume that self-reports of emotion over long time frames or "in general" are veridical. It is quite likely that they are not.

An Accessibility Model of Emotion Reporting

Robinson and Clore (2002a) reviewed multiple literatures and suggested that they seemed to converge on a simple accessibility model. To the extent that individuals are asked to report on concurrent reactions, their emotion reports are likely based on experiential sources of knowledge (i.e., *feelings*). On the other hand, to the extent that individuals are asked to report on feelings that are not concurrent (e.g., in relation to trait, hypothetical, prospective, or retrospective reports), their emotion reports are likely to be more driven by *beliefs* about their feelings. The model is parsimonious in highlighting these two influences (see Figure 12.1). Beliefs about emotion come from three primary sources:

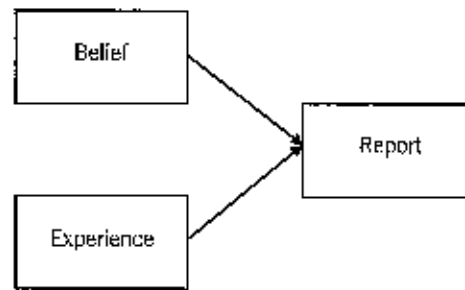


FIGURE 12.1. Two broad influences on emotion reports.

- Beliefs about the influence of particular situations (e.g., insults are angering, birthdays are happy)
- Generalized beliefs about the self (e.g., as captured by trait measures of extraversion or neuroticism)
- Social stereotypes incorporated into the self-concept (e.g., women are emotional)

The model can be further described in terms of three principles, as defined in Table 12.1. The first principle is that emotion reports tend to be made on the basis of the most accessible source of information. The second is that when multiple sources of information are accessible, the most specific source of information will be accorded more weight. Thus, individuals should generally prefer to base their reports on feelings rather than beliefs about feelings, and prefer more specific beliefs (e.g., about the influence of situations) to more generalized beliefs (e.g., about group membership). The third principle is that experience is transitory and fleeting; thus, this source of information—although preferred—is often not available.

This account makes assumptions consistent with “race” models, which have figured prominently in cognitive psychology (e.g., Logan, 2002). The fastest retrieved information tends to win, just as on television game shows (e.g., *Jeopardy*) in which the fastest contestant wins the round. Emotion reports, from this perspective, are not typically based on a careful calculus of all sources of information, but are rather based on a source of information readily retrieved that seems sufficient for making the judgment. We revisit such race model considerations later in this chapter.

TABLE 12.1. The Model’s Three Principles

- | |
|--|
| <ul style="list-style-type: none"> • <i>Relative accessibility</i>—The relative accessibility of sources of information will determine their influence on self-reports of emotion. • <i>Dominance</i>—When multiple sources of information are equally accessible, more specific sources of information dominate. • <i>Evanescence</i>—Feelings are transitory and cannot be stored in memory, at least not in a manner available for intentional recall. |
|--|

Explanatory Value of the Model

We suggest that the findings of Schwarz and Xu (2011) represent a classic case in which situation-specific beliefs (i.e., that driving a luxury car will bring pleasure) are apparently erroneous when actual experiences are assessed. In the latter case, feelings are multiply determined and likely to be based on more pertinent factors (e.g., purpose of the trip) rather than the car one is driving. We interpret the dissociations concerning the pleasure of living in warm climates (Schkade & Kahneman, 1998), the enjoyment of vacations (Mitchell et al., 1997, and affective forecasts (Wilson & Gilbert, 2005) in a similar manner.

The model further suggests that generalized beliefs about the self are likely to be more influential in retrospective reports than in online reports. A number of studies have confirmed this point. For example, individual differences in neuroticism can be defined in terms of beliefs concerning one's negative emotionality (Robinson & Sedikides, 2009). It is thus telling that studies have shown that neuroticism is a better predictor of retrospective distress reports than online reports of distress (Barrett, 1997; Brown & Moskowitz, 2007; Larsen, 1992). Furthermore, it appears that neuroticism is a weak predictor of disease states and a much stronger predictor of self-reported somatic complaints, likely reflecting belief-driven biases associated with this trait (Watson & Pennebaker, 1989).

The model finally suggests that some group-based stereotypes of emotion may be exaggerated at best and false at worst. The findings reviewed in relation to sex differences in emotion (e.g., Barrett et al., 1998) and cultural differences in emotion (e.g., Oishi, 2002) are consistent with this point. Again, people live their lives not as stereotypical creatures, but as real human beings whose feelings are much more contextual in nature than can be appreciated on the basis of retrospective or trait reports of emotion.

Tests of the Model

As indicated earlier, a review of the multiple sources of cognitive data (McClelland et al., 1995) pointed to two memory systems in the brain—one that preserves episodic details (the hippocampus) and another that does not (the prefrontal cortex). Furthermore, biological sources of data suggest that the episodic memory system preserves episodic memories for approximately 2 weeks. Accordingly, time frames shorter than 2 weeks should be associated with attempts to recall feelings, but time frames longer than 2 weeks should result in more belief-driven reporting.

To test this idea, we asked people to report on their emotions over seven time frames—right now, last few hours, last few days, last few weeks, last few months, last few years, and in general (Robinson & Clore, 2002b). The first of three studies found that longer time frames were associated with longer latencies of emotion reporting, but only up to the time frame “last few weeks” (see top panel, Figure 12.2). Study 2 found that time frames longer than the last few weeks were associated with significant trial-to-trial priming effects, whereas this was not true for time frames shorter than the last few weeks (see bottom panel, Figure 12.2). Thus, retrieving general semantic knowledge about feelings on one trial facilitates responses on the next trial if it draws on the same semantic knowledge. Such cognitive sources of data are

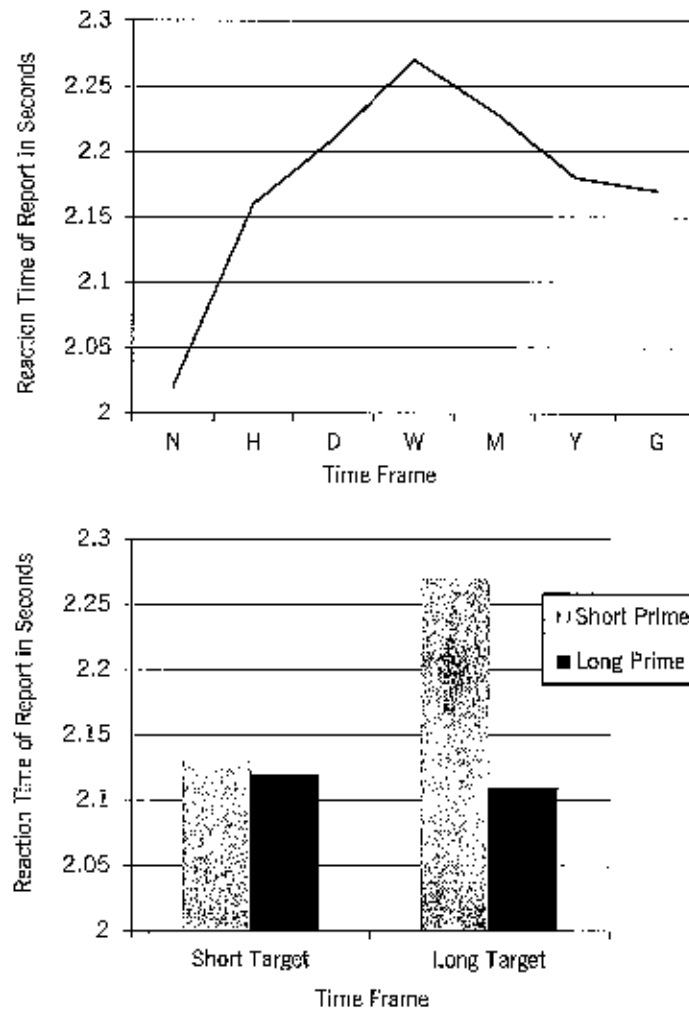


FIGURE 12.2. Top panel: Emotion report reaction times by time frame (N=right now; H=last few hours; D=last few days; W=last few weeks; M=last few months; Y=last few years; G=in general). Bottom panel: Trial-to-trial priming effects as a function of time frame (short=N, H, and D; long=M, Y, and G; target=trial N; prime=trial N-1).

important in that they suggest that individuals typically abandon attempts to retrieve experiential information when asked to report on their emotions over time frames longer than the last few weeks.

The model suggests that reports of emotion over long time frames, but not short time frames, should be assimilated to accessible beliefs. To test this prediction, Study 3 of Robinson and Clore (2002b) primed gender stereotypes by randomly assigning some individuals to think about how they are different from members of the opposite sex. The other condition was a control condition. As hypothesized, the priming manipulation led women to report that they were more emotional (i.e., to report higher ratings of emotionality) than men, but only for time frames longer than the

“last few weeks.” Accessible beliefs about emotion, thus, trump actual emotional experience when reporting over longer time frames, but they are apparently discounted when reporting emotions over shorter time frames. The beliefs are discounted in the short time frames because more relevant sources of experiential information (i.e., feelings) are easily accessible. Strictly speaking, our model (Robinson & Clore, 2002a) assumes that experiences are quite momentary and transitory in nature (see Table 12.1). However, the brain does tend to preserve a record of recent encounters for approximately 2 weeks (McClelland et al., 1995). We emphasize that such records are memories, not experiences, and may thus be susceptible to shorter-term episodic memory biases of the sort emphasized by Kahneman (1999). Of more importance to our model, retrieving such records should be somewhat effortful in nature. Accordingly, to the extent that effortful retrieval is disrupted, even shorter-term belief-driven biases may be evident.

Three studies examined this prediction (Van Boven & Robinson, 2012). In each experiment, individuals were exposed to emotion inductions (e.g., film clips) lasting about 5 minutes. After distracter tasks, they were asked to recall their emotional reactions to the emotion inductions approximately 20 minutes later. To disrupt episodic retrieval, individuals in all studies were randomly assigned to rehearse and memorize low-load (e.g., BBBBB) versus high-load (e.g., GTPWL) letter strings while recalling their earlier emotional reactions.

The first study found that women reported stronger emotional reactions than men, particularly in the high-load condition. Such findings are consistent with predictions of the accessibility model (Robinson & Clore, 2002a) that disrupting episodic retrieval processes should result in more belief-driven, gender-stereotypical emotional recall. Study 2 replicated Study 1 and found that women were more likely to exaggerate their prior reactivity, consistent with gender stereotypes. Study 3 primed such stereotypes, in addition to manipulating cognitive load, and found that both caused women to report more intense emotional reactions than they otherwise would have. From their results, the authors concluded that even short-term, episodic memories of emotions can be biased in a belief-driven direction when being cognitively busy hampers efforts at episodic retrieval (Van Boven & Robinson, 2012).

Extensions

The phenomenon of self-stereotyping has been a neglected topic relative to other-stereotyping. We hope that the experimental manipulations highlighted earlier may provide a road map for future studies; that is, self-stereotyping should be particularly evident for time frames longer than the last few weeks (Robinson & Clore, 2002a, Study 1). In addition, self-stereotypes can be primed (Robinson & Clore, 2002a, Study 3), and self-stereotyping increases under cognitive load (Van Boven & Robinson, 2012). We expect such experimental manipulations to be useful in understanding self-stereotyping as a function of situation-specific beliefs and individual differences due to personality, mental health diagnoses, and cultural identities.

In our own work, we became interested in the relevance of the two-process model for understanding personality processes. Personality trait measures, we contend, assess generalized beliefs about the self. Furthermore, according to our two-

process reporting model, such beliefs about the self are more likely to affect emotion (and symptom) reporting to the extent that episodic (event-specific) information is relatively inaccessible. Moderators of trait–state relations have often been proposed, but not with respect to the roles of the two processes of concern in our two-process model. But, the logic of the model implies that some individuals may be much more “traited” than others.

Basic choice reaction time tasks assess the speed with which particular cognitive events are recognized and accorded meaning (Sanders, 1998). Of importance for our purposes, there are pronounced individual differences in reaction time (Jensen, 1993) that, we suggest, tap a basic skill in ascribing meaning to events as they occur. Slow categorizers are those who display difficulties in assigning meaning to stimuli in our choice reaction tasks. To the extent that they have the same difficulties in assigning meaning to the transitory events in their lives, they may be more likely to fall back on trait self-knowledge when reporting on their experiences. A series of studies has examined this idea.

In one series of four studies, we (Robinson & Clore, 2007) examined relations between trait assessments of neuroticism and somatic symptom reports. It is widely thought that the relation between neuroticism and somatic symptoms is belief-driven (Watson & Pennebaker, 1989). In these studies, participants reported on their levels of neuroticism and completed several different choice reaction time tasks. Thus, a large number of objects were categorized as me (e.g., *self*) versus not me (e.g., *them*), feminine (e.g., *gentle*) versus masculine (e.g., *rational*), vegetable (e.g., *broccoli*) versus fruit (e.g., *peach*), unpleasant (e.g., *dirt*) versus pleasant (e.g., *smile*), and so on. There was a great deal of individual variability in reaction times, but the reliability of the reaction times across items was very high in each study (average $\alpha = .90$). The same individuals also reported on their somatic symptoms (experiences of aches, pains, breathing difficulties, dizziness, etc.).

In three studies (Robinson & Clore, 2007), individual differences in categorization speed moderated relations between neuroticism (the belief measure) and somatic symptom reports. The fourth study focused on daily neurotic behaviors instead. In all cases, the results were the same. Among fast categorizers (-1 SD below the RT mean), neuroticism did not predict such outcomes. Among slow categorizers ($+1$ SD above the RT mean), neuroticism was a strong predictor of such outcomes. A representative result is shown in the top panel of Figure 12.3. Such results are important to the personality literature, and they are novel in suggesting that personality traits may be more consequential for some individuals (i.e., those slow to assign meaning to events as they occur) relative to others (i.e., those fast to assign meaning to events as they occur).

Another related project concerned not neuroticism but extraversion. In general, higher extraversion scores are correlated with greater life satisfaction and happiness, though such relations are moderate (Diener, Suh, Lucas, & Smith, 1999). To see whether our model might shed some light on this relationship, three studies were conducted (Robinson & Oishi, 2006). The studies assessed generalized beliefs about the self with respect to extraversion by giving a standard extraversion scale and also assessed individual differences in categorization speed, which were again pronounced. In all three studies, the relationship between extraversion and life satisfaction or happiness was stronger among slow categorizers than fast categorizers.

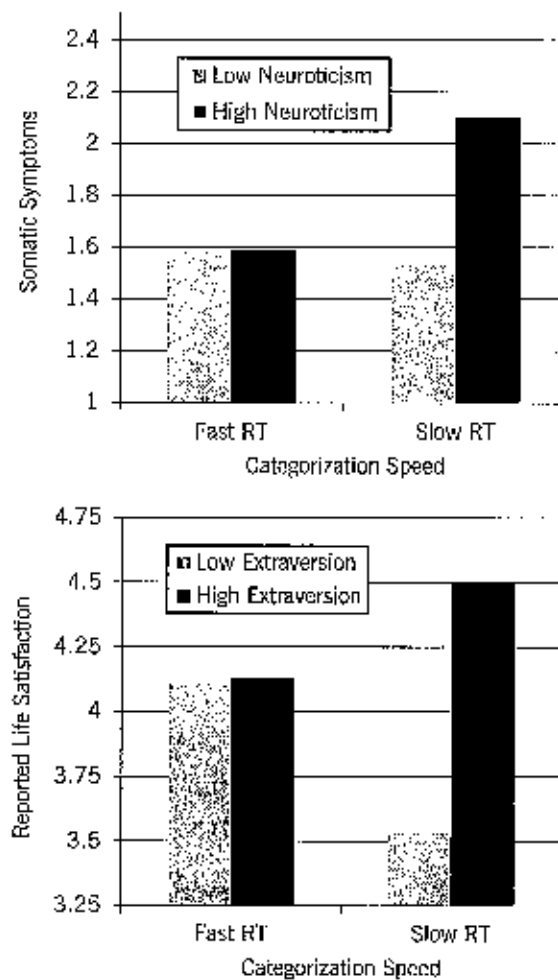


FIGURE 12.3. Top panel: Somatic symptom reports as a function of neuroticism and categorization speed. Bottom panel: Life satisfaction as a function of extraversion and categorization speed.

Furthermore, among fast categorizers (-1 *SD* below the RT mean), there was no relationship between individual differences in extraversion and life satisfaction. The bottom panel of Figure 12.3 reports a representative result from this series of studies.

The findings of these two sets of studies (Robinson & Clore, 2007; Robinson & Oishi, 2006) are unique, but conceptual parallels can be found in other recent literature. Whether because they are neurotic, worried, or depressed, it is clear that some individuals, relative to others, are much more prone to states of distress in everyday life (Widiger, Verhul, & van den Brink, 1999). Such distress proneness is more consequential to the extent that the individual is “mindless” (i.e., less attuned to present-moment reality) (Fetterman, Robinson, Ode, & Gordon, 2010; Fetterman & Robinson, 2010). Furthermore, the clinical literature has shown that constructs defined in terms of disengagement from present moments of experience—such as experimental avoidance (Hayes, 2004), rumination (Nolen-Hoeksema, 1991), worry

(Borkovec & Sharpless, 2004), and overgeneral autobiographical memory (Teale & Williams, 1999)—exacerbate distress among distress-prone individuals. Finally, the clinical literature has shown several times now that mindfulness meditation practices, which train individuals to attend to present-moment experiences, are therapeutic for distress-prone individuals (e.g., Teasdale et al., 2000).

Other Roles for Emotion Beliefs

In this chapter, we have implied that reliance on belief is a shortcoming, a symptom that a person is cognitively and emotionally challenged. We noted that when experiential information is inaccessible, emotional experiences reflect situational and self-beliefs rather than actual experiences. But before concluding, we should note that beliefs about emotion can also play more constructive roles. We discuss two such roles.

Once activated, a stereotypical self-belief might inspire or motivate belief-consistent behavior. This possibility is illustrated in a study of empathic accuracy (Hodges & Klein, 2001). Men and women were initially given a self-report measure of empathic concern and then attempted to infer accurately what a target was thinking or feeling. After this stereotypical gender concern had been activated by the questionnaire, women outperformed men on the empathic accuracy task. But when that concern had not first been cued by the questionnaire, men and women were equally accurate. The belief that women are more empathic, then, may not only contaminate reports of actual empathic feeling but also motivate empathic concern. Thus, in addition to serving a fill-in role when feelings are not accessible, self-stereotyping might also motivate belief-consistent behavior to create a self-fulfilling prophecy.

Another positive role played by emotion beliefs might be to provide coherence to otherwise discrete events. We discussed how people asked about their vacations before or afterward give more glowing accounts than if asked during their vacations (Mitchell et al., 1997). Because online experiences are relatively inaccessible afterward and completely inaccessible beforehand, people necessarily draw on beliefs about vacations, and about their vacation in particular. Such general beliefs are a poor proxy for actual experience because they may have little basis in experience and because they cannot be responsive to the variation inherent in experience.

Similar concerns led Kahneman (1999) to criticize research that asks general questions about subjective well-being because he assumed that people's answers would be biased by the intrusion of their beliefs. He proposed instead a program of research on what he called "objective well-being," which would sample online experiences. He reasoned that a better estimate of one's true well-being would be provided by assessments over time of momentary feelings. His proposal has not been widely accepted, and perhaps for good reason.

The problem is that, in addition to playing a fill-in role (which is what we have emphasized), beliefs also frame and give meaning to online experience. The idea that the value of a vacation, for example, should be reduced to the sum of vacationers' responses to assessments of momentary feelings during their vacation is, we think, likely to throw the baby out with the bath water. A person with a lifelong dream to see the Eiffel Tower, for example, despite moments of distress at the crowds, the expense, and the effort required, is nevertheless likely to be pleased at having traveled

to see it. Moreover, it seems unlikely that, if Kahneman confronted vacationers with the various ratings of negative affect they had given along the way, they would decide that their vacation had been a mistake. The point is that when framed as part of the task of reaching a goal, various aspects of the trip may become meaningful parts of the whole in a way that would not be captured by adding up the affective reactions to each part. Thus, neither Kahneman nor the rest of us are likely to stop taking vacations after reading the vacation diary study. Why? Because our general beliefs not only fill-in for feelings but they also organize and give meaning and value to them. Psychologists have long had a bottom-up bias in their accounts of behavior, but phenomena of psychological interest are rarely well captured by the sum of their parts. We suggest, then, that beliefs about our experiences, while they can be problematic when masquerading as experiences, also play other important roles, one of which is that beliefs provide the glue that makes experiences something more.

Discussion

The editors posed several excellent questions for authors. Although we discussed preliminary answers to such questions earlier, we deemed it useful to address them more directly in our discussion section:

1. *What do people know about themselves, and what are the limits of self-knowledge in this area of research?* There are two emotional selves: one that exists in the moment, and another that exists as a set of beliefs about one's emotions. These two emotional selves sometimes appear to be dissociated, so that reports of experience based on the kinds of self-views captured on self-report personality scales may not coincide with actual experience (Robinson & Clore, 2002a).

2. *Why do these limits exist?* These limits exist because experiences are transitory in nature. By contrast, beliefs about emotion are quite stable because they are central to how individuals conceptualize the self in general (Robinson & Clore, 2002a). For this reason retrospective and trait-based reports of emotion, while they may be either accurate or inaccurate in themselves, may fail to capture life as it is lived (Conner, Tennen, Fleeson, Feldman Barrett, 2009).

3. *What are the implications of this presence or lack of self-knowledge?* A primary implication is that when people answer questions about their emotions to themselves or others, it may be unclear when beliefs are filling in for actual experience. Thus, for example, people who believe themselves to be thoughtful may fail to see occasions of their thoughtlessness, or people who think of themselves as socially anxious may fail to note experiences of their own social grace. Such beliefs may be consequential, leading to poor decision making. Thus, some individuals may be more "traited" than others to the extent that they have difficulty assigning meaning to events quickly, as they occur, and rely on more general self-beliefs.

4. *How can self-knowledge in this area be improved?* It can be improved to the extent that individuals attend to events as they occur. Doing so allows lives to be lived in more nuanced and state-dependent terms (Robinson & Clore, 2007; Robinson & Oishi, 2006). In confirmation of this point, several treatment literatures have shown

that mindfulness training mitigates the distress of distress-prone individuals (Hayes, 2004), helping them focus on current experience rather than living in the future, in the past, or in an unchanging personal narrative.

5. *What are the methodological issues of measuring self-knowledge in this area of research?* The major implication of our model is that trait and retrospective reports of emotion should *not* automatically be viewed as veridical. Rather, our model encourages more state-related assessments of the individual, such as those seen in experience-sampling studies (Connor et al., 2009). We do not suggest that momentary assessments of emotion can replace trait assessments of personality, but we contend that it is important to recognize that trait and state assessments are not interchangeable and likely reflect different sources of self-knowledge.

ACKNOWLEDGMENTS

Support is acknowledged from National Institute of Mental Health Grant No. MH 50074 to Gerald L. Clore and National Science Foundation Grant No. BCS 0843982 to Michael D. Robinson.

REFERENCES

- Barrett, L. F. (1997). The relationships among momentary emotion experience, personality descriptions, and retrospective ratings of emotion. *Personality and Social Psychology Bulletin*, *23*, 1100–1110.
- Barrett, L. F., Robin, L., Pietromonaco, P. R., & Fyssell, K. M. (1998). Are women the “more emotional” sex?: Evidence from emotional experiences in social context. *Cognition and Emotion*, *12*, 555–578.
- Barrett, L. F., Lane, R. D., Sechrest, L., & Schwartz, G. E. (2000). Sex differences in emotional awareness. *Personality and Social Psychology Bulletin*, *26*, 1027–1035.
- Bartlett, F. C. (1932). *Remembering: A study in experimental and social psychology*. Cambridge, UK: Cambridge University Press.
- Borkovec, T. D., & Sharpless, B. (2004). Generalized anxiety disorder: Bringing cognitive behavioral therapy into the valued present. In S. C. Hayes, V. M. Follette, & M. M. Linehan (Eds.), *Mindfulness and acceptance: Expanding cognitive-behavioral tradition* (pp. 209–242). New York: Guilford Press.
- Brown, K. W., & Moskowitz, D. S. (1997). Does unhappiness make you sick?: The role of affect and neuroticism in the experience of common physical symptoms. *Journal of Personality and Social Psychology*, *72*, 907–917.
- Conner, T. S., Tennen, H., Fleeson, W., & Feldman Barrett, L. (2009). Experience sampling methods: A modern idiographic approach to personality research. *Social and Personality Psychology Compass*, *3*, 1–22.
- Davis, P. J. (1999). Gender differences in autobiographical memory for childhood emotional experiences. *Journal of Personality and Social Psychology*, *76*, 498–510.
- Diener, E., Suh, E., Lucas, R. E., & Smith, H. L. (1999). Subjective well-being: three decades of progress. *Psychological Bulletin*, *125*, 276–302.
- Eisenberg, N., & Lennon, R. (1983). Sex differences in empathy and related constructs. *Psychological Bulletin*, *94*, 100–131.
- Fertnerman, A. K., & Robinson, M. D. (2010). Contingent self-importance among pathological

- narcissists: Evidence from an implicit task. *Journal of Research in Personality*, 44, 691–697.
- Fetterman, A. K., Robinson, M. D., Ode, S., & Gordon, K. H. (2010). Neuroticism as a risk factor for behavioral dysregulation: A mindfulness-meditation perspective. *Journal of Social and Clinical Psychology*, 29, 301–321.
- Hayes, S. C. (2004). Acceptance and commitment therapy and new behavior therapies: Mindfulness, acceptance, and relationship. In S. C. Hayes, V. M. Follette, & M. M. Linehan (Eds.), *Mindfulness and acceptance: Expanding the cognitive-behavioral tradition* (pp. 1–29). New York: Guilford Press.
- Healy, H., & Williams, J. M. G. (1999). Autobiographical memory. In T. Dalgleish & M. J. Power (Eds.), *Handbook of cognition and memory* (pp. 229–242). Chichester, UK: Wiley.
- Hodges, S. D., & Klein, K. J. K. (2001). Regulating the costs of empathy: The price of being human. *Journal of Socio-Economics*, 30, 437–452.
- Jensen, A. R. (1993). Why is reaction time correlated with psychometric g? *Current Directions in Psychological Science*, 2, 53–56.
- Kahneman, D. (1999). Objective happiness. In D. Kahneman, E. Diener, & N. Schwarz (Eds.), *Well-being: The foundations of hedonic psychology* (pp. 85–105). New York: Russell Sage Foundation.
- Kring, A. M., Smith, D. A., & Neale, J. M. (1994). Individual differences in dispositional expressiveness: Development and validation of the Expressiveness Scale. *Journal of Personality and Social Psychology*, 66, 934–949.
- LaFrance, M., & Banaji, M. (1992). Towards a reconsideration of the gender-emotion relationship. In M. S. Clark (Ed.), *Emotion and social behavior: Vol. 14. Review of personality and social psychology* (pp. 178–201). Newbury Park, CA: Sage.
- Larsen, R. J. (1992). Neuroticism and selective encoding and recall of symptoms: Evidence from a combined current-retrospective study. *Journal of Personality and Social Psychology*, 62, 480–488.
- Logan, G. D. (2002). An instance theory of attention and memory. *Psychological Review*, 109, 376–400.
- Manstead, A. S. R. (1992). Gender differences in emotion. In M. A. Gale & M. W. Eysenck (Eds.), *Handbook of individual differences: Biological perspectives* (pp. 355–387). Chichester, UK: Wiley.
- McClelland, J. L., McNaughton, B. L., & O'Reilly, R. C. (1995). Why there are complementary learning systems in hippocampus and neocortex: Insights from the successes and failures of connectionist models of learning and memory. *Psychological Review*, 102, 419–457.
- Mitchell, T. R., Thompson, L., Peterson, E., & Cronk, R. (1997). Temporal adjustments in the evaluation of events: The “rosy view.” *Journal of Experimental Social Psychology*, 33, 421–448.
- Nolen-Hoeksema, S. (1991). Responses to depression and their effects on the duration of depressive episodes. *Journal of Abnormal Psychology*, 100, 569–582.
- Nolen-Hoeksema, S., Parker, L., & Larson, J. (1994). Ruminative coping with depressed mood following loss. *Journal of Personality and Social Psychology*, 67, 92–104.
- Oishi, S. (2002). The experiencing and remembering of well-being: A cross-cultural analysis. *Personality and Social Psychology Bulletin*, 28, 1398–1406.
- Robinson, M. D., & Clore, G. L. (2002a). Beliefs, situations, and their interactions: Towards a model of emotion reporting. *Psychological Bulletin*, 128, 934–960.
- Robinson, M. D., & Clore, G. L. (2002b). Episodic and semantic knowledge in emotional self-report: Evidence for two judgment processes. *Journal of Personality and Social Psychology*, 83, 198–215.

- Robinson, M. D., & Clore, G. L. (2007). Traits, states, and encoding speed: Support for a top-down view of neuroticism/state relations. *Journal of Personality, 75*, 95–120.
- Robinson, M. D., & Johnson, J. T. (1997). Is it emotion or is it stress?: Gender stereotypes and the perception of subjective experience. *Sex Roles, 36*, 235–258.
- Robinson, M. D., Johnson, J. T., & Shields, S. A. (1998). The gender heuristic and the database: Factors affecting the perception of gender related differences in the experience and display of emotions. *Basic and Applied Social Psychology, 20*, 206–219.
- Robinson, M. D., & Oishi, S. (2006). Trait self-report as a “fill in” belief system: Categorization speed moderates the extraversion/life satisfaction relation. *Self and Identity, 5*, 15–34.
- Robinson, M. D., Robertson, D. A., & Syty, N. A. (2002). *Personality as belief: Evidence for situation-contingent activation*. Unpublished manuscript, North Dakota State University.
- Robinson, M. D., & Sedikides, C. (2009). Traits and the self: Toward an integration. In P. J. Corr & G. Matthews (Eds.), *The Cambridge handbook of personality psychology* (pp. 457–472). Cambridge, UK: Cambridge University Press.
- Sanders, A. F. (1998). *Elements of human performance*. Mahwah, NJ: Erlbaum.
- Schkade, D. A., & Kahneman, D. (1998). Does living in California make people happy?: A focusing illusion in judgments of life satisfaction. *Psychological Science, 9*, 340–346.
- Schwarz, N., & Xu, J. (2011). Why don't we learn from poor choices?: The consistency of expectation, choice, and memory clouds the lessons of experience. *Journal of Consumer Psychology, 21*, 142–145.
- Seidnitz, L., & Diener, E. (1998). Sex differences in the recall of affective experiences. *Journal of Personality and Social Psychology, 74*, 262–271.
- Shields, S. A. (1991). Gender in the psychology of emotion: A selective research review. In K. T. Strongman (Ed.), *International review of studies on emotion* (Vol. 1, pp. 227–245). New York: Wiley.
- Smith, R. W., & Muckli, L. (2010). Nonstimulated early visual areas carry information about surrounding context. *Proceedings of the National Academy of Sciences USA, 107*(46), 20099–20103.
- Spence, J. T., Helmreich, R., & Stapp, J. (1975). Ratings of self and peers on sex role attributes and their relation to self-esteem and conceptions of masculinity and femininity. *Journal of Personality and Social Psychology, 32*, 29–39.
- Stapley, J. C., & Haviland, J. M. (1989). Beyond depression: Gender differences in normal adolescents' emotional experiences. *Sex Roles, 20*, 295–308.
- Strauss, G. P., & Gold, J. M. (2011). *A new perspective on anhedonia in schizophrenia: The accessibility model of emotional self-report explains the discrepancy among different methods of measurement*. Unpublished manuscript, University of Maryland School of Medicine.
- Tangney, J. P. (1990). Assessing individual differences in proneness to shame and guilt: Development of the Self-Conscious Affect and Attribution Inventory. *Journal of Personality and Social Psychology, 59*, 102–111.
- Teasdale, J. D., Segal, Z. V., Williams, J. M. G., Ridgeway, V., Soulsby, J., & Lau, M. (2000). Prevention of relapse/recurrence in major depression by mindfulness-based cognitive therapy. *Journal of Consulting and Clinical Psychology, 68*, 615–623.
- Tulving, E. (1984). Précis of elements of episodic memory. *Behavioral and Brain Sciences, 7*, 223–268.
- van Boven, L., & Robinson, M. D. (January, 2012). Boys don't cry: Cognitive busyness increases gender stereotypic emotion memory. *Journal of Experimental Social Psychology, 48*, 303–309.

- Watson, D., & Pennebaker, J. W. (1989). Health complaints, stress, and disease: Exploring the central role of negative affectivity. *Psychological Review*, *96*, 234–254.
- Widiger, T. A., Verheul, R., & van den Brink, W. (1999). Personality and psychopathology. In L. A. Pervin & O. P. John (Eds.), *Handbook of personality psychology: Theory and research* (2nd ed., pp. 347–366). New York: Guilford Press.
- Wilson, T. D., & Gilbert, D. T. (2005). Affective forecasting: Knowing what to want. *Current Directions in Psychological Science*, *14*, 131–134.
- Wood, W., Saltzberg, J. A., Neale, J. M., Stone, A. A., & Rachmiel, T. B. (1990). Self-focused attention, coping responses, and distressed mood in everyday life. *Journal of Personality and Social Psychology*, *58*, 1027–1036.