

## Emotion Elicitation Using Dyadic Interaction Tasks

Of all the possible elicitors of human emotion, interactions with other people may be the most powerful. Coworkers, friends, romantic partners, family members, and children can make us feel any type or intensity of emotion, ranging from mild joy to extreme frustration. Thus social interaction can be a rich source of spontaneous emotion, even in laboratory settings. By bringing two people (a *dyad*) into the laboratory and asking them to participate in an emotionally charged discussion (a *dyadic interaction*), researchers are able to observe a variety of emotions that closely resemble those that occur in everyday life. When used effectively, dyadic interaction tasks can offer researchers a wealth of information about the nature of emotion.

### Overview

Dyadic interaction tasks have been used to elicit emotion in various types of dyads, including romantic partners (e.g., Cohan & Bradbury, 1997; Gonzaga, Keltner, Londahl, & Smith, 2001; Gottman, Coan, Carrere, & Swanson, 1998; Richards, 2001; Tsai & Levenson, 1997), siblings (Shortt & Gottman, 1997), peers (Gonzaga et al., 2001; Keltner, Young, Heerey, Oemig, & Monarch, 1998), and patients and therapists (Pole, 2000). This chapter primarily focuses on a task originally developed by Levenson and Gottman (1983) that has been used extensively to elicit emotion in married couples and romantic partners. In brief, the procedure consists of

dyads engaging in a series of unrehearsed, minimally structured conversations in the laboratory. Conversations are facilitated in a way that optimizes the elicitation of intense emotion, either negative (e.g., through the discussion of an area of disagreement in the relationship; Coan, Gottman, Babcock, & Jacobson, 1997) or positive (e.g., through the discussion of an enjoyable topic; Levenson, Carstensen, & Gottman, 1993). Multiple measures of emotional responding typically are obtained during and immediately after dyads' conversations. For instance, continuous measures of peripheral nervous system physiology (e.g., heart rate, skin conductance) can be obtained from each partner during the conversations (e.g., Carstensen, Gottman, & Levenson, 1995; Pole, 2000; Roberts & Levenson, 2001). Researchers also typically videotape the conversations, allowing for subsequent coding of facial, postural, and verbal behavior (see Coan & Gottman, chapter 16, this volume). In addition, immediately after each conversation, participants may be asked to rate the degree to which they experienced various emotions during the conversation (Tsai, 1996).

In this chapter, we discuss the relative advantages and disadvantages of dyadic interaction tasks, describe the specific tools recommended for carrying out such tasks, and present a detailed description of the procedure. Because dyadic interaction tasks have been used most often with married and dating couples, such couples will serve as the primary illustrative examples (and, consequently, the terms *couples* and *dyads* may be used interchangeably). Researchers are encouraged to



modify the procedures according to the types of dyads studied and the research questions of interest.

### Why Use Dyadic Interaction Tasks? The Advantages

Dyadic interaction tasks allow researchers to: (1) study emotion in social contexts; (2) elicit spontaneous emotion under fairly controlled conditions without compromising ecological validity; (3) capture the natural temporal course of emotion; and (4) elicit a range of emotional responses. These advantages make dyadic interaction the emotion-eliciting task of choice for many researchers.

#### *Emotions in Social Contexts*

In recent years, emotion researchers have paid increased attention to the social functions of emotion (see Keltner & Haidt, 1999, for a review). In fact, it is difficult to think of an emotion that does not have interpersonal antecedents and consequences. For example, love typically increases our contact with others, whereas disgust decreases it; anger is evoked when someone has wronged us; and embarrassment appeases others after a social transgression (Darwin, 1872/1998; Keltner & Buswell, 1997; Keltner & Haidt, 1999). Dyadic interaction tasks make it possible to examine how individuals experience and express emotions during social interactions and how emotions shape and are shaped by the reciprocal interactions between individuals (e.g., Keltner et al., 1998; Levenson & Gottman, 1985; Ruef, 2001).<sup>1</sup> For example, playful teasing may facilitate positive emotional exchanges, whereas aggressive teasing can lead to an escalation of negative emotion (Keltner et al., 1998). In addition, eliciting and measuring transactional emotional processes (i.e., the way emotions transpire between individuals) can yield useful information about the role emotion plays in interpersonal relationships. For example, Levenson and Gottman (1983) found that couples suffering from marital distress showed greater "physiological linkage," in which one partner's physiological arousal predicted greater physiological arousal in the other partner. Similarly, they found that when husbands displayed more negative emotion compared with positive emotion during a conflict conversation (i.e., greater ratios of negative to positive emotional displays), their wives showed more disgust and contempt during a similar conversation held 4 years later, placing couples on a trajectory toward marital dissolution (Gottman & Levenson, 1999).

#### *Ecological Validity*

Affective science's most sophisticated measures are of limited use if they are not generalizable to situations outside the laboratory. Compared with other emotion-eliciting tasks, dyadic interaction tasks may have the greatest ecological validity, because they rely on an ongoing emotional relationship between two individuals. In essence, they allow researchers to sample from an extant reservoir of feelings between two indi-

viduals. As a result, the type, intensity, and timing of emotion occurring during dyadic interaction tasks should closely resemble the emotions that occur between these two individuals in their daily lives. Anecdotally, participants often report that the only difference between the conversations they have in the laboratory and those they have at home is the fact that they are not having the conversation while engaging in another activity, such as doing the dishes or making dinner for their children. Indeed, in a study of Chinese American and European American dating couples, participants were asked to indicate how similar their laboratory conversations were to conversations they have in daily life (on a scale from 1 = *not at all* to 7 = *extremely*; Tsai, 1996). For a conversation in which partners updated each other about what they did during the day (the "events-of-the-day" conversation), the mean response was 5.5 (SE = 0.1). For a conversation in which partners discussed a disagreement in their relationship (the "conflict conversation"), the mean response was 5.2 (SE = 0.1). These ratings indicate that participants perceived conversations in the laboratory as more similar to than different from the conversations they have in their daily lives.

Moreover, whereas other emotion-eliciting tasks may emphasize standardization of content over meaning (e.g., in film-viewing tasks, all participants watch the same film, even though the subjective meaning of the film may differ for each participant), dyadic interaction tasks focus on standardizing the task's meaning rather than content. For example, when dyadic interaction tasks are used to elicit negative emotion in couples, couples are instructed to discuss the topic that they report as the greatest area of disagreement in their relationship. Thus, even though one couple may discuss communication and another may discuss jealousy, both will discuss topics that are the greatest source of disagreement in their respective relationships. This increases the likelihood that the emotions sampled in the laboratory via dyadic interaction tasks generalize to those that occur outside the laboratory.

In any case, it seems clear that the emotions elicited during dyadic interaction tasks are highly generalizable to situations outside of the laboratory, an advantage that cannot be overstated.

#### *Emotion as a Dynamic Process*

Emotions can change from one moment to the next. Dyadic interaction tasks allow researchers to capture the natural ebb and flow of emotions in the laboratory. More specifically, dyadic interaction tasks make it possible to examine the onset, offset, and duration of an emotional episode, as well as the temporal sequence of different emotional episodes (Ruef & Levenson, chapter 17, this volume). Such information can offer important clues as to the function of different emotional states. For example, positive emotions, such as amusement, appear to facilitate physiological recovery following the experience of negative emotions (Fredrickson & Levenson, 1998). Using a dyadic interaction task, Gottman and Levenson (1999) found that couples who were most sat-



ified with their relationships were more likely to interrupt their negative emotional exchanges with positive ones (e.g., affection, humor), suggesting that positive emotions may in part serve to soothe and repair negative interactions.

### *Range of Emotional Responses*

Dyadic interaction tasks are ideal for studying variability in emotional responding, because the conversations employed are fairly unstructured. As a result, dyadic interaction tasks tend to generate a wider range of emotions than more tightly controlled emotion-eliciting stimuli (e.g., film clips used to elicit specific emotional states). For example, for some dyads, the task of discussing an area of conflict in their relationship may elicit large increases in physiology, frequent displays of negative emotional behavior, and intense reports of negative emotional experience. For other dyads, the same task may elicit only moderate increases in physiology, frequent displays of positive, as well as negative, emotional behavior, and reports of both positive and negative emotional experience. Thus dyadic interaction tasks leave room for researchers to explore the considerable variation in emotional responses that exist from dyad to dyad, from person to person, and even within individuals over time or in different contexts. Researchers have, in fact, already identified many correlates of variation in emotional responding during dyadic interaction tasks, such as gender, ethnicity, age, relationship history, personality, and current level of stress (e.g., Carstensen et al., 1995; Coan et al., 1997; Gottman et al., 1998; Jacobson et al., 1994; Roberts & Levenson, 2001; Robins, Spranca, & Mendelsohn, 1996; Tsai & Levenson, 1997). Finally, by measuring multiple components of emotion during dyads' conversations, it is possible to examine variation not only in the type and intensity of emotion experienced and expressed but also in the channels through which emotion is expressed (e.g., physiology, expressive behavior, subjective experience), as well as the degree to which these different channels cohere.

### **Why Not Use Dyadic Interaction Tasks? The Disadvantages**

According to conventional wisdom, the characteristics that initially draw you to your mate are the same ones that you ultimately want to change. Unfortunately, the same can be said of any emotion-eliciting task, and dyadic interaction tasks are no exception. That is, aspects of dyadic interaction tasks that are their greatest strengths are also their greatest limitations. Disadvantages of the task are that: (1) its procedures allow considerable room for participant noncompliance and experimenter error, (2) it requires significant resources, and (3) it provides only a snapshot sampling of emotion.

#### *Participant Noncompliance and Experimenter Error*

Because dyadic interaction tasks allow considerable variability in emotional responding, they also allow participant non-

compliance. First, the task requires participants to have conversations about intimate aspects of their relationships under the scrutiny of strangers. Second, to preserve ecological validity and minimize discomfort, participants typically are left to themselves (albeit with cameras rolling) to complete this task. Thus it is not uncommon for participants to avoid discussing the topic assigned to them. For example, some romantic couples discuss an assigned area of conflict during the first minute of the allotted 15-minute conversation and then discuss a nonconflictual topic for the remainder of the time. Other couples disengage once the conversation reaches a high level of emotional intensity, such as by changing the topic or ceasing their conversation altogether. It is quite possible that these behaviors reflect how participants deal with conflict at home, but it also may be that they are avoiding the discomfort or embarrassment of discussing difficult topics in a laboratory setting.

Of course, participants are not the only source of unwanted variability. As discussed in greater detail later, the dyadic interaction task *facilitator* (i.e., the primary individual who facilitates the procedure) introduces a source of variability. Although facilitators are trained to behave in a standard manner, they still may establish different levels of rapport with each dyad. In addition, there are individual differences among different facilitators. Because facilitators not only have extensive contact with each dyad but also play the central role of facilitating dyads' emotional conversations, facilitator differences may affect how comfortable participants feel and, consequently, how much their interaction in the laboratory resembles their typical interactions outside the laboratory.

#### *Resource Demands*

Dyadic interaction tasks require significant resources from both participants and researchers. Dyadic interaction procedures can require anywhere from 2 to 4 hours to complete. Thus both members of the dyad must find and coordinate a 2- to 4-hour block of time in their schedules. Busy couples may be particularly reluctant to give up a free night together to participate in an experiment. Therefore, researchers have to make the experience convenient and rewarding enough for dyads to participate (e.g., by offering significant financial compensation, or by providing child care as needed for some couples). In addition, the dyadic interaction task typically requires two or more experimenters (one facilitator and one data collector), especially when obtaining multiple measures of emotion. If a researcher decides to collect physiological measures, the expense of data collection and data reduction expands considerably. As a result, it can be difficult for researchers to use this task without substantial personnel and financial support.

#### *Snapshot Sampling of Emotion*

As described earlier, one of the reasons that dyadic interaction tasks are such effective elicitors of emotion is that they



sample from a dyad's existing reservoir of emotion, which increases the ecological validity of the task. However, as is the case with most emotion-eliciting tasks, dyadic interaction tasks are able to provide only a snapshot of participants' emotional responses. Without a full history of the dyad's relationship, we have limited understanding of *why* partners are responding to one another in the ways that they are. Similarly, the generalizability of one partner's emotional responses to interactions with other partners (i.e., other relationship partners or other people in general) is unknown. Ideally, researchers would be able to study individuals' emotional responses with different dyadic interaction partners; however, given the tremendous resources required, this usually is not a viable option.

Not surprisingly, we believe that, in most instances, the advantages of dyadic interaction tasks far outweigh their disadvantages. Moreover, because dyadic interaction tasks provide a unique window into the interpersonal functions of emotion, we believe they should be part of any emotion researcher's tool chest.

## Methods

### What Do You Need to Get Started?

Although dyadic interaction tasks can be intensive in terms of equipment and personnel, once the materials are obtained and the procedure is rehearsed, these tasks can be smoothly run. This section discusses the primary components involved in setting up a dyadic interaction task. We base our discussion on Levenson and Gottman's (1983) dyadic interaction procedure. Of course, as mentioned earlier, this procedure should be tailored to meet the specific needs of one's research program.

#### Personnel

The first issue is *whom* you need to get started. The key player in any dyadic interaction task is the *facilitator*. Facilitators have the most contact with participants and, therefore, are critical to the successful elicitation of emotional conversations. Prior to a dyad's conversation, the facilitator delivers instructions to the dyad, identifies the topic that the dyad will discuss, and reviews with each partner his or her feelings about the topic. After the conversation, the facilitator attempts to diffuse any residual feelings and then introduces subsequent parts of the task. Therefore, the ideal facilitator is someone who can put couples at ease so that they are willing to discuss their feelings openly and who at the same time is not afraid to stir up intense emotions. It is an added bonus if the facilitator is well versed in aspects of the experiment (e.g., attaching physiological sensors, collecting physiological data, recording audio and visual responses) so that he or she can assist the other experimenters.

The specific needs of the experiment should, in part, influence the selection of the facilitator. Most of our work has been with samples of romantic couples. To date, our facilitators have been women with a background or interest in psychology and in working with couples. We typically have used one or two facilitators throughout the study. Using just one facilitator has the advantage of holding this source of experimental variance constant for all dyads. It also avoids the possible confound of introducing a new facilitator midway through the study and creates continuity for couples who are followed over time. However, it can be difficult to maintain the same facilitator throughout the study, particularly with longitudinal studies or large samples. Furthermore, there are disadvantages to using just one rather than several facilitators. One disadvantage is that the facilitator is likely to mature throughout the course of the study, and, as a result, conversations facilitated at the study's start may differ from those facilitated near the study's end. In addition, using just one rather than several facilitators potentially may limit the study's replicability.

When using multiple facilitators for the same study, one approach is to match the facilitators as closely as possible, such as in terms of age, appearance, and personality. This approach may be important when comparing different types of dyads in a between-subjects design. For example, previous research has suggested that participants are more comfortable when the experimenter is of the same ethnicity (Anderson, 1989; Murphy, Alpert, Willey, & Somes, 1988). Therefore, in a study of ethnicity and emotion conducted by Tsai, Levenson, & McCoy (2006), a Chinese American facilitator was selected to interact with Chinese American couples and a European American facilitator to interact with European American couples. The two facilitators (both undergraduate psychology majors) were matched in terms of physical appearance, wore similar uniforms when conducting the study, and worked together to ensure that their demeanors were as similar as possible. An alternative approach, however, is to select different kinds of facilitators, who vary in age, appearance, and personality. In the example of the Tsai and Levenson (1997) study, this would involve using several Chinese American facilitators and several European American facilitators. This kind of approach has the advantage of randomizing any facilitator-specific error variance. In part, the decision about whether to use a few similar facilitators or many different facilitators will depend on the sample size and the questions the researchers are attempting to answer with the dyadic interaction task.

Regardless of the number of facilitators used, extensive training is important to ensure that facilitators are practiced in the logistics of the experiment and in their interpersonal responses (e.g., responding in a fairly controlled, yet sensitive and personable manner). Training typically includes watching videotapes of facilitators in previous studies, role plays, and practice with several volunteer pilot couples. In-



dividuals with prior clinical training or training in basic interviewing skills most likely will require less training.

One experimental challenge is keeping the facilitator "blind" to the experimental conditions and hypotheses. For example, in a dyadic interaction study conducted by one of us (JLT), half of the couples engaged in conversations in the presence of a confederate (an older gentleman; Tsai, 1996). The facilitator introduced the gentleman to the couple and therefore was not blind to the manipulation. Although this approach introduces a source of bias in that it is possible that the facilitator will respond differently toward couples in the two experimental conditions (with and without the confederate), having the facilitator involved throughout the experiment is often necessary to provide continuity for couples. For example, if a confederate suddenly appeared without being introduced by the facilitator, couples might feel nervous and be reluctant to engage in an emotional conversation. In other between-subjects designs, such as studies involving older versus younger couples or couples of different ethnicities, it is almost impossible to keep the facilitator blind to these different groups. Nevertheless, standardizing the facilitator's role as much as possible and avoiding discussion of specific hypotheses with the facilitator can help preserve the integrity of the experiment.

Finally, in addition to the facilitator, it is helpful to have at least one additional person (e.g., an undergraduate research assistant or graduate student experimenter) assist with data collection, especially when videotaping sessions and collecting physiological data at the same time.

### Setting

The Levenson and Gottman (1983) dyadic interaction task typically has been conducted in a comfortably furnished laboratory setting (e.g., Richards, 2001; Roberts & Levenson, 2001; Tsai & Levenson, 1997). In this setting, two chairs (i.e., one for each partner) face each other. Behind each chair is a bookshelf, and on each bookshelf are neutral objects, such as old books and other decorative items. Two tables are turned perpendicularly to the dyad, one with physiological preparatory equipment and one with a video monitor. An additional chair is situated to the side of the dyad for the facilitator. Importantly, a separate experimenter room is located adjacent to the participant room. Communication takes place via an intercom and audiovisual apparatus controlled and monitored remotely. The facilitator is able to enter the participant room quickly if needed.

### Apparatus and Materials

An advantage of using dyadic interaction tasks is that multiple kinds of data can be collected, including verbal responses, facial expressions and other nonverbal behaviors, ratings of self-reported emotion, and physiology. Consequently, this procedure can be quite equipment-intensive. It should be noted, however, that the dyadic interaction pro-

cedure can be conducted without this kind of equipment-intensive data collection. For example, although this section reviews how to collect physiological data and continuous ratings of self-reported affect, conversations can just be videotaped or transcribed.

### Audiovisual Apparatus

Valuable information about couples' emotional responses can be obtained by recording a frontal view of each partner's face and upper torso. Following the procedure by Levenson and Gottman (1983), we have videotaped participants continuously and unobtrusively by embedding two remotely controlled high-resolution video cameras in the respective bookshelves behind each partner's head. In addition to being embedded in bookshelves, cameras are partially concealed behind darkened glass. Thus, even though participants are told up front that they will be videotaped, they typically report not noticing or forgetting about the cameras. The two images (i.e., one of each partner) can be combined into a single split-screen image using a video special effects generator and then recorded on a VHS videocassette recorder (Levenson & Gottman, 1983). Advances in computer-mediated digital video recordings undoubtedly will continue to increase both the quality of recordings and the ease with which such data are collected.

In addition to videotaping dyads, audiotaping their conversations with a *tape recorder*, either placed in the participant room or connected in the adjacent experimenter room, allows researchers to transcribe the conversations later and to code dyads' narratives (e.g., for content and word use). A Lavalier *microphone* can be clipped onto each partner's shirt collar to record partners' verbal responses, and a room microphone can be used to pick up the facilitator's comments (and is helpful in the event that one microphone fails during the dyad's conversation). Audio quality can be monitored from the experimenter room by a *digital audio mixer*.

An *intercom* from the experimenter room to the participant room enables the experimenter to communicate with the dyad (e.g., instructing them to sit quietly if they are talking during the baseline period) without having to enter the room and risk making participants feel self-conscious. Another useful device that reduces the number of times that the experimenter has to enter the room is a timed light indicator (the *signal light*), which receives a signal from the data collection software to indicate when the dyad can begin conversing. When this device is used, dyads are instructed to simply sit quietly until the signal light goes on, at which time they can begin their conversation.

Finally, the participant room should contain a video playback *monitor* if the researchers would like participants to watch a videotaped recording of their conversations (described later).



### Rating Dials

To obtain continuous ratings of participants' subjective emotional experience during the conversations, a *rating dial* may be used. The type of dial used in previous research consists of a pointer attached to a dial, on which the pointer traverses a 180-degree arc over a 9-point scale, anchored by *very negative* at zero degrees, *neutral* at 90 degrees, and *very positive* at 180 degrees (Gottman & Levenson, 1985; see also Ruef & Levenson, chapter 17, this volume). Using this type of dial, participants can provide moment-by-moment ratings of how positive or negative they felt during their conversations. Rating dials can be configured such that participants' ratings are input directly into a computer in the experimenter room.

### Self-Reported Emotion Inventories

Another option for collecting subjective emotional experience in response to the dyadic interaction task is to administer self-report emotion inventories after each conversation. For example, Tsai et al. (2006) used inventories adapted from Ekman, Friesen, and Ancoli (1980), in which participants rated how strongly they felt each of several specific emotions (e.g., disgust, contempt, shame, amusement) during their conversations. However, there are a variety of questionnaire measures that can be used for collecting self-reports of subjective emotional experience (e.g., see Gray & Watson, chapter 11, this volume).

### Topic Inventories

Two self-report inventories are critical to the facilitation of emotional conversations in married or romantic couples: the Couple's Problem Inventory (Gottman, Markman, & Notarius, 1977), which has been labeled as the "Areas of Disagreement" form in participants' questionnaire booklets; Tsai, 1996) and the Enjoyable Conversations form (a list of topics developed by Lowell Krokoff and mentioned in Gottman et al., 2003). The facilitator uses these inventories to help identify topics that couples will discuss during their conversations. On the Couple's Problem Inventory, couples rate the perceived severity of 10 relationship issues (e.g., money, communication, jealousy) using a scale ranging from 0 (*Don't disagree at all*) to 100 (*Disagree very much*). We have added a question to this form asking couples to list the topic that *currently* represents the greatest area of disagreement in their relationship, which is useful in case more than one area receives a high rating (Tsai, 1996). The Enjoyable Conversations inventory follows the same format, except that couples use the 0–100 scale to indicate how much they enjoy talking about a list of 16 pleasant topics (e.g., vacations we've taken, silly and fun types of things, our plans for the future). These inventories are included in appendix A.

Although each partner may complete these inventories during the laboratory session, it might be desirable, in terms of saving time and obtaining thoughtful responses, to have partners complete the inventories at home prior to the laboratory

session. Importantly, partners are instructed to complete these inventories independently, whether at home or in the laboratory. This prevents partners from being influenced by each other's responses. It also increases the likelihood that their ratings will reflect genuine sources of concern (or enjoyment), and therefore more emotion should be evoked at the time of the interaction in the laboratory (e.g., a jealous partner may be more likely to indicate *jealousy* as a strong area of disagreement if he or she completes the rating form without the other partner present).

### Relationship Satisfaction

In addition to the inventories that assess couples' primary areas of disagreement and enjoyment, researchers may wish to ask couples to complete a relationship satisfaction inventory, such as the Locke-Wallace Marital Adjustment Test (Locke & Wallace, 1959) or the Locke-Williamson Test (Burgess, Locke, & Thomes, 1971; these can be adapted for use with dating couples or other types of dyads). Relationship satisfaction is likely to be a moderating variable in dyadic interaction tasks, but it also may be a predictor or outcome variable. Again, these inventories can be administered before or during the laboratory session, but they may yield more honest and thoughtful responses when completed outside the laboratory and when completed by partners independently.

### Other Self-Report Questionnaires

A host of other questionnaire measures have been used in conjunction with dyadic interaction tasks, depending on the study's aims. These include measures of personality (e.g., NEO Personality Inventory; Costa & McCrae, 1992), health (e.g., Symptom Checklist-90; Derogatis & Lazarus, 1994), recent life stress (e.g., Horowitz, Schaefer, Hiroto, Wilner, & Levin, 1977), and cultural background and practices (e.g., Suinn-Lew Asian Self-Identity Acculturation Scale; Suinn, Rickard-Figueroa, Lew, & Vigil, 1987; Acculturation Rating Scale for Mexican Americans; Cuellar, Harris, & Jasso, 1980). These measures are best administered outside the laboratory and before participants engage in the dyadic interaction task.

### Physiological Apparatus

Researchers have identified ways to collect autonomic and somatic nervous system physiology data in a fairly unobtrusive manner during dyads' conversations (e.g., Levenson & Gottman, 1983). For example, by attaching sensors to a participant's nondominant hand (e.g., electrodes to measure skin conductance; a thermistor to measure finger temperature; a plethysmograph to measure finger pulse transit time and finger pulse amplitude), multiple autonomic indicators can be collected while the participant's dominant hand is free to complete inventories or gesture as usual while conversing. In addition, an electromechanical transducer can be attached to a platform under each participant's chair to measure general somatic activity (bodily movement). Physiological sensors are attached at the beginning of the procedure, and



physiology is monitored continuously throughout dyads' conversations. Although participants often joke in a self-conscious manner while the sensors are being attached (e.g., commenting to one another, "Look, I'm wearing earrings," while sensors are being attached to their ears), they report that they tend to forget about the sensors during the experiment. Again, the procedures for facilitating emotional conversations in the laboratory can be used even if physiological data are not collected or if different kinds of physiological measures are selected. (Also refer to Curtin, Lozano, & Allen, chapter 24, this volume, for a more thorough description of physiological data collection.)

### Dyad Selection and Recruitment

As with any study, careful attention must be paid to selection criteria. When studying close relationships, there is the added consideration of evaluating factors that may influence the intimacy of the relationship, which can have implications for the quality of the interaction and the emotions elicited. For example, for married couples, it may be important to consider the length of relationship, whether the relationship is a first marriage, and whether there have been previous separations. For other types of dyads, such as dating couples, peers, or siblings, it is equally important to consider factors that could affect the nature of the relationship, such as whether or not the two individuals live together, age differences, power and status differences, and degree of commitment to the relationship (Keltner et al., 1998; Shortt & Gottman, 1997; Tsai & Levenson, 1997).

Dyads can be recruited in the same manner as single participants, such as through large survey firms, advertisements, or word of mouth. When screening potential participants who may have found out about the study through word of mouth (e.g., college-age dating couples), it is important to ask whether or not they have heard anything about the specifics of the study. In one case, we learned that couples were choosing not to participate in our study because it was gaining a reputation for "breaking up couples" (presumably by having them discuss areas of conflict in their relationships).<sup>2</sup> Similarly, when offering monetary compensation for study participation, careful screening should be done to ensure that participants are not "faking" their relationship to be in the experiment. In one case, due to our suspicions about the nature of the relationship of the couple, we brought partners into different rooms and asked them questions about their relationship (e.g., How did you meet? What is your partner's birthday) to assess whether or not they were actually romantically involved.

### Procedure

A sample timeline for the dyadic interaction task is provided in appendix B. The procedure described in this timeline measures multiple aspects of emotional responding and has been used in various laboratories with great success. Never-

theless, researchers are urged to view this timeline as one example of a dyadic interaction task and to modify it to suit their particular scientific interests.

### Prior to the Interaction Session

After telephone screening to ensure that the dyad meets criteria for the particular study, partners are mailed a set of questionnaires (e.g., demographics, relationship satisfaction) and are instructed to complete the questionnaires *independently*. Partners also are instructed not to speak to one another for at least 8 hours prior to their laboratory visit, to ensure that they have enough material to discuss during their initial conversation (about the events of their day). Couples who have spoken to each other extensively within the 8 hours prior to their laboratory session are rescheduled. If possible, contacting *both* partners before the laboratory session ensures their arrival at the appropriate time and location. In some instances, however, one partner may take responsibility for ensuring that the other partner has all of the needed logistical information.

### Interaction Session: Consent and Attaching Sensors

Upon arrival at the laboratory, couples read and sign consent forms. After partners provide consent, physiological sensors are attached (i.e., if physiological data are being collected). Given that there are two participants in the room, sensors can be attached to one partner at a time (e.g., while the other partner completes "filler" questionnaires), or two experimenters (e.g., the facilitator and a research assistant) can attach the sensors to both partners simultaneously. Throughout this procedure, it is important to maintain a fairly neutral yet warm stance, to neither promote nor inhibit interaction between partners.

### Initial Baseline

To obtain baseline measures of physiology before experimental instructions are given, partners are instructed to sit quietly for 5 minutes. Because partners often engage in significant nonverbal communication during this baseline period, a screen is placed between them to prevent any conversation or distraction. A card with a letter "X" is placed on the screen in front of each partner, and they are instructed to relax, watch the X, and empty their minds of any thoughts, feelings, or memories. Partners also are instructed not to close their eyes or fall asleep. Partners are asked to complete a self-report emotion inventory after the 5-minute baseline period. (Again, this baseline period may not be needed if physiological data are not being collected, or may be of a different duration to suit the needs of the particular experiment.)

### Events-of-the-Day Conversation

To acclimate dyads to conversing in the laboratory, they are asked to discuss the "events of the day" or the events that



occurred during the time since they were last in contact. This conversation can serve as a "control" conversation that is compared with other, more emotional conversations or as a conversation of interest in itself. To introduce this conversation, we (Tsai, 1996; Roberts & Levenson, 2001) have given the following instructions:

We have found that couples, after not having seen each other for most of the day, typically talk about the day's events. I'd like you to have a conversation like the ones the two of you normally have at the end of the day. I'd like you to be as normal and natural as you can. Because we're interested in your normal, natural interactions, you don't need to explain who people or where places that you discuss are. The idea is to behave as naturally as you can. Do you have any questions?

If partners deny that anything has happened since they last saw each other, they are encouraged to "do the best they can" and to talk about what they normally would talk about after not having seen each other for a period of time.

Prior to the conversation, partners are asked to sit quietly and relax for a few minutes. A signal light goes on after 5 minutes, signaling to the dyad that they can begin their conversation. After 20 minutes (the 5-minute silent period and 15-minute conversation), the facilitator enters the room to signal that the conversation period is over. (Participants are not instructed beforehand how long to keep talking—they are just told to converse until the facilitator returns.) The facilitator can then administer a self-report emotion inventory to each partner.

### Conflict Discussion and the Role of the Facilitator

After the events-of-the-day conversation, dyads are asked to have a conversation about an area of conflict in their relationship. Success in eliciting emotion during this dyadic interaction task largely hinges on selecting a topic that evokes the most emotion for each dyad. This is accomplished during the *conflict facilitation*. A sample conflict facilitation is provided in appendix C. There are three primary goals of the conflict facilitation: (1) to identify a topic about which partners disagree; (2) to highlight partners' differences of opinion; and (3) to draw out each partner's emotions about the disagreement, priming them to engage in conflict.

#### Identifying the Topic

Prior to the conflict conversation—either following the events-of-the-day conversation or before coming to the laboratory session—each partner independently completes an Areas of Disagreement form (described earlier). Before speaking with the dyad, the facilitator reviews each partner's form and identifies the two or three areas that they disagree about the most. Although this form provides a sense of the areas about which partners disagree, these self-report ratings do

not necessarily reflect the topic that will elicit the strongest emotions during a dyadic interaction. For example, spouses may rate "religion" as a "100," because they have very different religious views and practices; however, they may accept these differences and therefore not become emotional when discussing them. Furthermore, there may be a discrepancy between the areas each partner rated as highest in conflict. This can make for either an emotional conversation (e.g., if partners argue about whether or not there is a disagreement) or a one-sided conversation (e.g., if only one partner becomes emotionally engaged). Therefore, rather than simply relying on partners' self-report ratings, the facilitator's task is to review systematically with the couple several areas of disagreement and to determine which topic will be most likely to generate the strongest emotions.

#### Approaching the Facilitation

When working with the couple to identify the primary area of disagreement, one of two approaches can be used: a long, drawn-out exploration of the topics, or a shorter, more structured approach. A slightly more "chatty" approach may convey a relaxed stance on the part of the facilitator and allow more room for building rapport with the dyad. On the other hand, a more structured approach may be advisable when length of procedure is of concern or when standardizing a dyadic interaction protocol for multiple facilitators. In either case, it is important to maintain rapport and help the couple feel comfortable by discussing the topics in a respectful manner. This is made easier when the facilitator is comfortable with the expression of negative emotion and with discussing intimate and potentially embarrassing topics (e.g., sex) with the dyad. (Again, these are important considerations when selecting the facilitator.)

#### Inquiring About the Disagreement

Couples typically are introduced to the facilitation with the statement, "Another thing we know about couples is that they often disagree. I'm going to ask you about a few topics that, based on your questionnaires, it looks like the two of you may disagree about."<sup>3</sup> A good starting point is to ask each partner, one at a time, to describe the last time they had a disagreement about the first topic.<sup>4</sup> For example: "One area of disagreement seems to be communication. Jane, why don't you start out by telling me when the last time was that you and John had a disagreement about communication, and how it made you feel." Asking partners to cite a specific time when they disagreed can help provide an anchor for the discussion and illustrate how the area of conflict plays out in the relationship. One thing the facilitator should keep in mind is that partners were not supposed to see one another's ratings beforehand, so it is important not to reveal these ratings or to specify which partner suggested that a certain topic was an area of disagreement. In addition, as one partner begins to tell his or her side of the story, the other partner often interrupts (e.g., to defend himself or herself). In these



instances, the facilitator should tell the other partner that he or she will have a chance to tell his or her side of the story in a moment. The facilitator should prevent the couple from engaging in an argument during the facilitation; the argument itself should be saved for the interaction.

#### *Focus on Emotions*

A crucial aspect of the facilitation is identifying and highlighting the emotions underlying the disagreement. "Reflective listening" is a helpful technique the facilitator can use to draw out each partner's emotions. Reflective listening involves simply restating the participant's feelings in his or her own words (e.g., "So, when John didn't tell you why he was upset, you felt really confused and angry"). Although it sometimes may be necessary to make inferences about emotions if a participant is reluctant to say anything or is having difficulty articulating his or her feelings, it is important to avoid making judgments or assumptions about how partners feel. Incorrect assumptions could increase a participant's discomfort with the task and decrease task compliance. Asking about emotions in an open-ended fashion (e.g., "What else were you feeling when you had the sense John was ignoring you?") and sticking as closely as possible to what each partner actually said can be helpful strategies.

#### *Deciding How Much to Probe*

It is important to explore each topic enough to gain a sense of the disagreement and to bring the underlying issues and emotions to the surface. At the same time, the goal is for the couple to experience the most emotion during the conversation itself and not before. Ideally, couples should be on the verge of becoming emotional just before their conversation.

#### *Summarize*

As soon as the facilitator has a clear sense of the disagreement, including each partner's viewpoint and feelings, it is useful to make a summary statement that highlights the disagreement as much as possible. For example: "It sounds, Jane, as though you were confused about why John was upset, and you get angry thinking about how he often does not tell you why he is upset. And you, John, also felt angry and hurt, because you feel Jane should have known why you were upset, and that you shouldn't have had to tell her." The dyad should be discussing a current area of disagreement, so the summary statement should be phrased in the present tense, even though the facilitator will refer to past events. After making a summary statement, the facilitator should check with each partner to make sure his or her statement is accurate (e.g., "Does that sound about right?").

#### *Repeat With Each Topic*

Once an understanding of the first topic is achieved, the facilitator should inform the couple that they will move on to the next topic. For example: "Okay, I think I have a pretty clear sense of what the disagreement regarding communica-

tion is about. Another area it looks like the two of you may disagree about is money." The second topic then should be explored in the same manner as the first, addressing the inquiry to the other partner (e.g., "John, could you tell me about the last time you and Jane had a disagreement about money, and how it made you feel").

#### *Choosing the Final Topic*

After exploring two or three topics, it is up to the facilitator to determine which topic will be the most emotionally evocative. The following factors can be considered to assist with this decision: (1) *Is the issue current?* A recent argument is more likely to be emotionally charged than one that took place several years ago or has been resolved. (2) *Do both partners seem engaged?* Although it may be the case that one partner's refusal to engage in a discussion about a particular topic actually generates more emotion, the topic ideally will be an area that generates engagement and emotion from both partners. (3) *Is the couple comfortable?* Although it can be expected that there may be some discomfort when couples are asked to discuss an area of relationship conflict, if the couple appears too uncomfortable or distressed to even engage in a particular topic, it is advisable to select a different topic. (4) *When in doubt, ask the couple.* If the facilitator is stumped as to which topic seems to generate the most emotion, he or she may ask the couple which topic they view as the greatest area of conflict in their relationship.

#### **Conflict Conversation**

After the conflict facilitation and the selection of a conversation topic, couples are asked to have a conversation about the selected topic and are encouraged to attempt to resolve their conflict about the topic. They are instructed to follow the same format as with the first conversation. That is, they are asked to sit quietly for 5 minutes and then to begin their conversation about the selected topic when the signal light turns on. After 20 minutes have passed (the 5-minute silent period and the 15-minute conversation), the facilitator comes back into the room, and each partner completes a self-report emotion inventory.

#### **Enjoyable Conversation**

Although researchers typically have used data from conflict conversations to study emotion and intimate relationships (e.g., Levenson & Gottman, 1985; Tsai & Levenson, 1997; Gottman et al., 2003), the dyadic interaction paradigm often involves a third conversation after the events-of-the-day and conflict conversations, during which couples are asked to discuss an enjoyable topic. This conversation serves two purposes: (1) to learn more about dyads during interactions designed to elicit positive emotions and (2) to end the procedure on a pleasant note. The enjoyable conversation follows the same format as the conflict conversation. First, the



facilitator uses the Enjoyable Conversations form to select the areas partners rated as the most enjoyable to discuss. Second, the facilitator systematically reviews these areas with the couple, with careful attention paid to each partner's emotions (e.g., "John, how do you feel when you and Jane are talking about vacations you've taken together?"). Third, the facilitator selects the final topic and asks couples to have a conversation about it. As with the previous conversations, partners sit quietly for 5 minutes and then begin their conversation after the signal light turns on. The facilitator returns after the 15-minute conversation, and partners complete a self-report emotion inventory.

If length of the procedure is of concern, it is possible to omit the enjoyable conversation or to randomly assign couples to engage in either a conflict conversation or an enjoyable conversation (both preceded by the events-of-the-day conversation). Based on our experience, the enjoyable conversation is less effective at eliciting intense emotion and, in many cases, is very similar to the events-of-the-day conversation.

### Recall Session

To collect continuous measures of self-reported affect, after the conversations researchers can show the dyad a videotape of each conversation and ask them to use a rating dial to provide continuous ratings of how positive or negative they were feeling at each moment during the conversation (described earlier; also see Ruef & Levenson, chapter 17, this volume). Although this method is not an essential component of the dyadic interaction task, it has the advantage of enabling continuous measures of emotional experience to be collected without interrupting the procedure (and thereby interrupting the affective experience). When presented with the rating dial, partners are instructed to use the dial to provide continuous reports of how positive or negative they felt moment by moment during the preconversation silent period, as well as during the conversation. Couples should be given some time to practice using the dial; ideally, couples would learn how to make their ratings without looking down at the dial. It is important that couples understand that they should rate how they were feeling moment by moment *during the conversation itself*, not while watching the videotape during the recall session.

This "recall" portion of the experiment has been integrated into the dyadic interaction procedure in two different ways. In the original Levenson and Gottman (1983) procedure, couples engaged in three conversations during one laboratory session, and then each partner returned individually on a separate occasion for the recall session. Having two sessions is advantageous in that it minimizes fatigue and allows partners to make their ratings without the other partner present. It is problematic, however, if there is a concern about partners not returning for the second session. Moreover, with this time lag, it is possible that participants will forget how they actually felt during the conversation.

An alternative method is to have couples engage in just one or two conversations and then conduct the recall session immediately afterward (e.g., Roberts & Levenson, 2001; Tsai et al., 2006). The advantages of this method are that partners do not have to come back for an additional session and that couples are less likely to forget how they felt during their conversation. With this method, after the couple completes the conversations, partners' chairs are turned 90 degrees so that both partners are facing the video monitor. A screen is placed between them so that they cannot see one another's ratings or facial expressions while making their ratings. Headphones also are placed on each partner's head to deter them from talking and so that they cannot hear each other's verbal responses (e.g., laughing out loud).

### Excerpts

One shortcoming of collecting continuous measures of affect using a rating dial is that only valence (positive and negative affect) is measured. Therefore, to capture couples' subjective experience of specific emotions, the researcher may ask them to complete self-report emotion inventories about their emotional experience at certain key moments during the conversation. For example, after couples finish rating their affect using the rating dial, the software that collects the rating dial data can be programmed to extract periods, or points in time (i.e., in minutes and seconds), that each partner rated as most positive and most negative. The videotape (or digital video file) then can be cued to these moments (e.g., most positive and most negative moment for Partner A and most positive and most negative moment for Partner B). Partners are shown these excerpts (without being informed about the significance of these particular excerpts) and asked to complete a self-report emotion inventory about how they felt during that portion of the conversation. This allows researchers to assess the specific emotions partners experienced when they were feeling negatively or positively.

### Troubleshooting

As mentioned earlier, two of the strengths of dyadic interaction tasks are that they resemble naturalistic conversations and that they allow room for variability in emotional responding. However, these strengths also open the door to a number of problems that might compromise the task's ability to elicit emotion. In this section we discuss several of these potential problems and how we have attempted to address them in our own work.

#### *What If the Couple "Has Nothing to Say"?*

Some couples may explicitly state that they rarely disagree and therefore have nothing to resolve, even if they indicated on their Areas of Disagreement form that they disagree on different topics. Although some couples may in fact rarely



disagree, it is more likely that couples are uncomfortable with the facilitator, lack insight about their own disagreements, and/or dislike discussing conflict. In these cases, it may be helpful for the facilitator to state explicitly that most couples experience some degree of conflict, and that this is a normal (and in many ways healthy) part of human relationships. The facilitator should also state that although some couples initially mention that they do not have conflicts, what this usually means is that they do not have intense yelling and screaming matches. Facilitators should emphasize that "conflicts" can be mild disagreements or things that irritate partners and that they rarely discuss. Facilitators should be patient and give couples more time as needed to think about and discuss possible areas of disagreement. Finally, it has been our experience that some couples who refuse to open up to the facilitator often are quite aware of the disagreement and willing to engage with one another once the facilitator leaves the room. If this appears to be the case (e.g., based on partners' nonverbal cues), summarizing the disagreement as much as possible and ending the facilitation sooner rather than later may be sufficient to ignite a discussion when the couple is alone.

#### *What If the Couple Becomes Exceptionally Angry?*

Because the primary goal of the dyadic interaction task is to elicit intense emotion, in most cases, experimenters will not intervene when the couple is arguing and is visibly angry during the conversation. In fact, at times experimenters are more uncomfortable with the conflict than the couples themselves, because, despite couples' anger, they often are relieved to have engaged in a much-needed discussion. Nevertheless, we have encountered couples who engaged in unusually heated conversations. In these instances, after the conversation, the facilitator emphasized that conflict is a normal part of relationships but that discussing an area of disagreement can lead couples to realize that they have issues that they could use help resolving. The facilitator then has given the couple a list of referrals to couples' therapists. In some studies, we have provided referral lists (e.g., addresses and phone numbers of local outpatient or community mental health clinics; toll-free crisis hotline numbers) to all participants, stating that it is in case they or a friend ever need this information. On rare occasions, couples engage in a discussion in which one partner threatens the other. This is more likely to occur when researching couples with a history of domestic violence (Jacobson et al., 1994). Researchers are advised to have a specific protocol on hand (e.g., a debriefing form; contact information for backup staff or campus police) should one partner become a threat to the other partner or to him- or herself.

#### *What If the Couple Veers Off Topic?*

As with everyday interactions, many times couples will digress during their conversations. Most times, couples who digress will eventually return to the assigned topic. To mini-

mize the frequency with which this occurs, after the conflict facilitation and before leaving the room, facilitators should ask couples to try to stay on the topic of their disagreement as much as they can. Facilitators also can ask participants to discuss other areas of conflict should they resolve the first one, which will help ensure that couples continue discussing areas of disagreement. We have not intervened when couples veer off topic, because we want their conversations to be as natural as possible and for them to forget as much as possible that their conversations are being observed from an adjacent room.

#### *What If the Couple Asks Questions During the Conversation?*

Couples are informed at the beginning of the experiment that they are being videotaped and that they can communicate with the facilitator when he or she is not in the room by simply speaking out loud. Nevertheless, to promote the most natural interaction possible, it is important to minimize couples' sense that they are being observed. This poses a challenge when—after the facilitator has left the room—couples ask questions that either directly or indirectly address the experimenter (e.g., "Do we have to sit quietly now?" "When do we begin talking?" "Is this sensor too loose?"). Usually, one partner can answer the other partner's questions. However, there are times when neither partner knows the answer. If the couple asks these questions after the facilitator has left the room but before beginning their conversation, the facilitator should reenter the participant room and ask whether the couple has any questions (i.e., so as not to give participants the sense that someone is observing them closely). If the questions arise after the conversation period has already begun, the facilitator must decide whether or not answering the question will interfere with the effectiveness of the task. We would advise that the facilitator avoid answering the question unless it is necessary for effective completion of the task. For example, a participant may say, "I wonder how long we are supposed to talk for." By answering the question via the intercom, the facilitator may increase the couple's awareness that they are being observed and therefore may alter the nature of the interaction (e.g., Carver, 2003; Ziegler, Arnold, & Forehand, 1975). Because knowing the length of time should not matter in terms of the overall effectiveness of the task, this question is better left unanswered. However, if the couple asks, "Wait a minute—which topic are we supposed to talk about again?" the facilitator should ask participants via the intercom if they have any questions and then answer this question as succinctly and clearly as possible (e.g., "Please try to resolve your disagreement about communication").

#### **Debriefing and Video Consent Form**

Conflictual interactions can leave couples in a distressed state, particularly couples who were distressed to begin with. There-



fore, immediately after the conflict conversation, it is critical to normalize the experience by saying that even though conflict is a normal part of relationships, it can be difficult to talk about areas of disagreement. The facilitator should thank couples for their openness and honesty and let them know that their ability to share their relationship openly reflects their strength as a couple. Because couples may be self-conscious about their areas of conflict, facilitators should be careful not to refer to couples' conversations in their subsequent interactions with them.

At the end of the study, the experimenter may join the couple and reiterate his or her appreciation for the couple's participation. In addition to a traditional experimental debriefing form, a referral list of mental health professionals may be provided (as discussed previously). For nonlongitudinal studies, in which participants will not be returning for subsequent sessions, more information about the details of the study can be provided. For longitudinal studies, couples are reminded that they will be contacted in the future and that their cooperation is appreciated. We also advise asking couples not to discuss the specific details of the study with others until after the study is over in order to minimize the chances that other couples will have knowledge about the study prior to participating in it.

Because of the rich behavioral data collected on videotape, couples are asked to complete, in addition to the traditional consent form, a consent form indicating where

and how the videotapes can be used (e.g., to show to couples in other studies; to show at scientific meetings; to show to the popular media). The "video consent form" may be administered at the beginning or end of the session; however, in most cases, we administer the form at the end of the session so that couples can decide how they would like the videotapes to be used based on their conversations.

### Uses of the Dyadic Interaction Task

In this final section, we describe some of the ways in which we and other researchers have used dyadic interaction tasks. Table 7.1 provides examples of different phenomena that have been studied with these tasks. Based on these examples, readers can determine the applicability of dyadic interaction paradigms for their research purposes.

#### *Different Types of Relationships*

This chapter primarily focused on studying spouses and romantic partners, but dyadic interaction tasks also have been used to study fraternity brothers (Keltner et al., 1998), siblings (Shortt & Gottman, 1997), parents and children (Repetti & Wood, 1997), and patients and therapists (Pole, 2000). In addition to studying intimate relationships, dyadic interaction procedures have been applied to unfamiliar dyads, such as ethnically similar and ethnically

**Table 7.1**  
Uses of Dyadic Interaction Tasks

<i>Study</i>	<i>Sample</i>	<i>Research Topic</i>
Coan et al. (1997)	Domestically violent couples	Affective differences among types of violent men
Gottman et al. (1998)	Newlywed couples	Function of positive affect during marital conflict
Gottman et al. (2003)	Gay and lesbian couples	Correlates of relationship satisfaction and stability among gay and lesbian couples
Keltner et al. (1998)	Fraternity brothers (study 1); romantic couples (study 2)	Relation between teasing behavior and social status, personality, and relationship satisfaction
Kupperbusch (2003)	Middle-aged and older long-term married couples	Relation between marital satisfaction and health
Levenson & Gottman (1985)	Long-term married couples	Predictors of marital satisfaction and stability
Levenson, Carstensen, & Gottman (1994)	Middle-aged and older long-term married couples	Impact of aging on emotion and marriage
Pole (2000)	Patients and therapists	Impact of therapeutic interventions on emotion
Repetti & Wood (1997)	Mothers and preschoolers	Impact of job stress on mother-child interactions
Richards (2001)	College-age dating couples	Impact of emotion regulation on memory
Roberts & Levenson (2001)	Police officers and spouses	Impact of job stress on emotion during marital interaction
Shortt & Gottman (1997)	Young adult siblings	Predictors of emotional closeness versus distance in adult sibling relationships
Tsai & Levenson (1997)	Chinese American and European American dating couples	Impact of ethnicity and cultural context on emotion
Weis & Lovejoy (2002)	Mothers and preschoolers	Impact of emotion on mothers' perception of the parent-child relationship



dissimilar individuals (Littleford, Wright, & Sayoc-Parial, 2005) and unacquainted individuals instructed to adopt different emotion regulatory strategies (Butler et al., 2003).

### Research Questions

First and foremost, dyadic interaction tasks are ideal for examining fundamental emotional processes, such as emotional reactivity, emotion regulation, and empathy. They also are ideal for examining the link between patterns of emotional responding and relationship satisfaction. However, dyadic interaction methodology can be applied to almost any research question. This paradigm lends itself to studying predictors of emotional responding, ranging from personality traits to cultural background to job stress, and is effective for studying how emotional responding predicts outcomes such as physical and psychological health. As with any study, a longitudinal approach to dyadic interaction, whereby the same dyads are studied over time, enhances the predictive power of the research.

Through studies using dyadic interaction tasks, we have learned that displays of contempt and disgust are among the most toxic for a marriage (Gottman & Levenson, 1999); that marriages are stable and happy to the degree that husbands do not avoid or escalate negative affect expressed by wives (Gottman et al., 1998); that one spouse's job stress affects

the other spouse's physiology (Roberts & Levenson, 2001); that suppressing emotions, rather than reappraising a situation, takes a toll on memory (Richards, 2001); that culture exerts different effects on expressive versus physiological aspects of emotion (Tsai et al., 2006); and that when therapists make more accurate interventions, their clients show decreases in physiological arousal (Pole, 2000) and more positive emotional behavior with their partner (Roberts et al., 2006).

### Conclusion

Interactions between two people can evoke a wealth of emotion. This chapter reviewed how researchers have made use of this natural reservoir of emotion to study ecologically valid emotional responses in the laboratory. In this chapter, we discussed the relative advantages and disadvantages of using dyadic interaction tasks to study emotion. We also described specific procedures and equipment that have been used in dyadic interaction studies. Finally, we briefly reviewed the various ways in which researchers have used dyadic interaction paradigms. It is our hope that this review of dyadic interaction tasks will enable both novice and seasoned researchers to decide whether or not to incorporate dyadic interaction methodology into their studies of emotion.

## Appendix A: Conversation Facilitation Forms

### AREAS OF DISAGREEMENT

**Instructions:** This form contains a list of topics that many couples disagree about. Please use this form to show how much you think you and your spouse disagree about each area.

In the left column, indicate how much you and your spouse disagree by writing in a number from **0** to **100**. A **zero** indicates that you don't disagree at all and a **100** indicates that you disagree very much.

In the right column, please write down the number of years, months, weeks, or days that this level of disagreement has existed.

**For example:**

We disagree about . . .	How much?	How long?
A. Recreation	90	2 yrs.
B. Religion	0	10 yrs.

**This would indicate that recreation is something you disagree about very much and have disagreed about for two years. Religion is something you have agreed about for ten years.**



We disagree about . . .	How much?	How long?
1. Money		
2. Communication		
3. In-laws		
4. Sex		
5. Religion		
6. Recreation		
7. Friends		
8. Alcohol and drugs		
9. Children		
10. Jealousy		

Please write down any other areas of disagreement.

11.		
12.		

What is currently the strongest area of disagreement in your relationship?

--	--	--

### ENJOYABLE CONVERSATIONS

**Instructions:** Below is a list of topics many couples enjoy talking about. We would like to get some idea of how enjoyable each topic is to you.

Please indicate how enjoyable each topic is by assigning it a number from 0 to 100. Zero indicates that the topic is not enjoyable, and 100 indicates that it is very enjoyable.

**For example:**

**I enjoy talking to my partner about . . .**

**How enjoyable?**

1. Vacations we've taken..... 85

**This indicates that talking to your partner about vacations is very enjoyable.**

**I enjoy talking to my partner about . . .**

**How enjoyable?**

1. Other people we know..... \_\_\_\_\_

2. Casual and informal types of things ..... \_\_\_\_\_

3. Politics and current events..... \_\_\_\_\_

4. Things that have to get done around the house ..... \_\_\_\_\_

5. Things happening in town ..... \_\_\_\_\_



6. Silly and fun types of things.....
  7. Some of the good times we've had together in the past.....
  8. The children (or grandchildren).....
  9. Our views on different issues .....
  10. Our accomplishments .....
  11. The family pet .....
  12. Something we've recently done together .....
  13. Our (sleep) dreams .....
  14. Our plans for the future .....
  15. Things we've seen on television, heard on the radio, or read about.....
  16. Vacations we've taken.....
- Please feel free to write down any other conversations you find enjoyable.
17. ....
  18. ....

### Appendix B: Sample Timeline of a Dyadic Interaction Task Used With Romantic Partners

- I. Prior to Laboratory Session
  - a. Partners complete questionnaires independently, including Areas of Disagreement and Enjoyable Topics inventories
  - b. Partners are instructed not to see or talk with each other for 8 hours prior to their session.
- II. During Session\*
  - a. Administration of consent forms (5 minutes)
  - b. Physiological sensor attachment (15 minutes)
  - c. Preinstruction baseline and administration of emotion inventory (5 minutes)
  - d. Instructions for events-of-the-day conversation (2 minutes)
  - e. Events-of-the-day conversation
    - i. Silent period (5 minutes)
    - ii. Conversation (15 minutes)
    - iii. Completion of emotion inventory (2 minutes)
  - f. Conflict facilitation (10–30 minutes)
  - g. Conflict conversation
    - i. Silent period (5 minutes)
    - ii. Conversation (15 minutes)
    - iii. Completion of emotion inventory (2 minutes)
  - h. Recall session
    - i. Instructions (5 minutes)
    - ii. Watch and rate events-of-the-day conversation, including preconversation silent period (20 minutes)

- iii. Watch and rate conflict conversation, including preconversation silent period (20 minutes)

- i. Sensor detachment and debriefing (10 minutes)

\*Times are approximations.

### Appendix C: Sample Conflict Facilitation Used With a Romantic Couple

FACILITATOR: Another thing we know about couples is that they often disagree. According to your questionnaire packets, you reported that money was an area of disagreement in your relationship. *John*, could you start out and tell me about the last time you and *Jane* had a disagreement about money. Please tell me specifically what the disagreement was and how you feel about it.

JOHN: I guess the main disagreement is about our new place; we'll be moving in together at the end of the semester. I'm not as concerned with making it look so together as *Jane* is. There are other things I'd rather spend money on.

FACILITATOR: So you don't feel it's as necessary to spend money on it.

JOHN: I'd like to spend money on it, but we're both graduating, so it's not as permanent as it could be, and I just don't want to have a lot of extra stuff to deal with. It's not that big of a deal. I don't want to paint it [the dis-



agreement] as anything bigger than it is. But that's the last time we had a disagreement about money.

FACILITATOR: How does it make you feel that Jane wants to put more money into the place than you, because you feel you're graduating and it's not permanent?

JOHN: It doesn't make me feel bad, but that's not what I want to spend my money on. I'm glad she cares about our relationship, but I think we can work on the relationship without working on the place.

FACILITATOR: So you're saying that maybe Jane feels the place is a sign of your relationship, whereas you don't feel that way, so you don't want to spend money on it.

JANE: Well, that's not exactly how I...

FACILITATOR: Jane, first I'd like to get a sense of the disagreement from John, and then we'll focus on your sense of the disagreement and how you feel about it.

JOHN: Yeah. The other thing is that we get money in different ways, so I can't spend money how she does. She gets it all at once, and I get a monthly allowance. That's where I feel the pressure—she wants it to all be done.

FACILITATOR: You feel you can't just spend all the money at once, because you get a monthly allowance.

JOHN: Exactly.

FACILITATOR: And you said you feel pressured.

JOHN: Yeah.

FACILITATOR: Jane, now will you tell me about the last time you and John had a disagreement about money and how you felt about it.

JANE: I consider the last disagreement we had about money to be when we were planning a vacation and deciding where we would go. We wanted to go skiing, but the cheapest place we could get was the most he was willing to spend. But he's thinking about the money he has right now, not the money he has in total. What's more important: hoarding money in a bank account, or enjoying life with it? I think sometimes it can be worth it to take an extra couple hundred dollars out of the bank. It bummed me out that we haven't been on a vacation together since last year, and we can't take a vacation together. Also, I got used to nice vacations as a kid, and he did, too, but I'm not as willing to sacrifice them as he is.

FACILITATOR: You feel that sometimes you'd like to have nicer vacations or spend more money at the time, but John hoards his money away, so even if he does have the money, he's not willing to spend it on things you would like to. And it bums you out.

JANE: Yep, that about sums it up. The other thing is that I have more money now, but come May, at the end of the semester, he'll have money and I won't, so it's kind of ironic.

FACILITATOR: Do you wonder why you're willing to spend more money on the place and on vacations than he is, when you feel he has more?

JANE: Yeah; I understand it more now, in terms of how he was brought up. It just bums me out, because I think life is more important than money. I think it's important to live at a certain standard if you're capable, or to take vacations.

FACILITATOR: John, do you have anything to add?

JOHN: No.

*The facilitator would then explore two or three other topics as needed, and pick the seemingly strongest area of disagreement.*

FACILITATOR: Okay, then for your next conversation, I'd like you to talk about money, and how for John [facilitator addresses him], you only have a monthly allowance right now, so you don't like to spend money in big chunks, because then you don't have any for the rest of the month—you'd rather spread it out. And instead of spending it on the new place, you feel there are more important places you can spend your money. You don't feel spending money is necessary for the relationship like Jane might, so you end up feeling pressured. But for Jane [facilitator addresses her], it bums you out that John doesn't want to put in more money for a nice vacation, or other things you feel it would be worth spending money on so you can enjoy life—instead, you feel he hoards money, and perhaps it takes away from the relationship in some way.

I'd like you to have as normal a conversation as you can, and because this is an area of conflict in your relationship, I'd like you to try and resolve your conflict about money. I'd like you to have as normal a conversation as you can, much like when you're normally working on a disagreement at home. Do you have any questions?

## Notes

1. It is important to note that when two or more individuals engage in an interaction, their responses are intertwined. Given the reciprocal nature of emotion in dyads, readers are encouraged to refer to statistical sources such as Bakeman and Gottman (1997) and Reis and Judd (2000) for methods of analyzing the statistical "dependency" of dyadic data.

2. We did not receive any actual complaints from couples who participated, however.

3. The wording used to introduce the facilitation can be adjusted to be more collaborative and less abrupt, particularly if couples are not engaging in an events-of-the-day conversation prior to their conflict discussion. For example, in a study where couples participated in the dyadic interaction procedure (the conflict conversation only) at the beginning and end of an 8-week "relationship coaching" intervention, one of us (NAR) referred to the conflict discussion as a "problem-solving conversation," and introduced the facilitation by saying: "I'm



going to ask you to have a problem-solving conversation, but before that we'll talk for a few minutes about one or more topics, to choose the topic that it makes the most sense for you to discuss during your conversation. In looking at your questionnaires, one topic it may make sense for the two of you to talk about is . . ." (and then each partner is asked systematically about the topic; Roberts, Kanter, Manos, Rusch, & Busch, 2006).

4. A systematic approach to determining which topic to explore first is to alternate (in a randomized, between-subjects fashion) between wives' and husbands' strongest areas of conflict (per their Areas of Disagreement form ratings). The same kind of randomized, between-subjects approach can be used to determine which partner to question first.

## References

- Anderson, N. B. (1989). Racial differences in stress-induced cardiovascular reactivity and hypertension: Current status and substantive issues. *Psychological Bulletin*, 105(1), 89–105.
- Bakeman, R., & Gottman, J. M. (1997). *Observing interaction: An introduction to sequential analysis* (2nd ed.). New York: Cambridge University Press.
- Burgess, E. W., Locke, H. J., & Thomes, M. M. (1971). *The family*. New York: Van Nostrand Reinhold.
- Butler, E. A., Egloff, B., Wilhelm, F. H., Smith, N. C., Erickson, E. A., & Gross, J. J. (2003). The social consequences of expressive suppression. *Emotion*, 3(1), 48–67.
- Carstensen, L. L., Gottman, J. M., & Levenson, R. W. (1995). Emotional behavior in long-term marriage. *Psychology and Aging*, 10(1), 140–149.
- Carver, C. S. (2003). Self-awareness. In M. R. Leary & J. P. Tangney (Eds.), *Handbook of self and identity* (pp. 179–196). New York: Guilford Press.
- Coan, J., Gottman, J. M., Babcock, J., & Jacobson, N. (1997). Battering and the male rejection of influence from women. *Aggressive Behavior*, 23(5), 375–388.
- Cohan, C. L., & Bradbury, T. N. (1997). Negative life events, marital interaction, and the longitudinal course of newlywed marriage. *Journal of Personality and Social Psychology*, 73(1), 114–128.
- Costa, P. T., & McCrae, R. R. (1992). Normal personality assessment in clinical practice: The NEO Personality Inventory. *Psychological Assessment*, 4(1), 5–13.
- Cuellar, I., Harris, L., & Jasso, R. (1980). An acculturation scale for Mexican American normal and clinical populations. *Hispanic Journal of Behavioral Sciences*, 2, 199–217.
- Darwin, C. (1998). *The expression of the emotions in man and animals* (3rd ed., P. Ekman, Ed.). New York: Oxford University Press. (Original work published 1872)
- Derogatis, L. R., & Lazarus, L. (1994). SCL-90-R, Brief Symptom Inventory, and matching clinical rating scales. In M. E. Maruish (Ed.), *The use of psychological testing for treatment planning and outcome assessment* (pp. 217–248). Hillsdale, NJ: Erlbaum.
- Ekman, P., Friesen, W. V., & Ancoli, S. (1980). Facial signs of emotional experience. *Journal of Personality and Social Psychology*, 39(6), 1125–1134.
- Fredrickson, B. L., & Levenson, R. W. (1998). Positive emotions speed recovery from the cardiovascular sequelae of negative emotions. *Cognition and Emotion*, 12(2), 191–220.
- Gonzaga, G. C., Keltner, D., Londahl, E. A., & Smith, M. D. (2001). Love and the commitment problem in romantic relations and friendship. *Journal of Personality and Social Psychology*, 81(2), 247–262.
- Gottman, J. M., Coan, J., Carrere, S., & Swanson, C. (1998). Predicting marital happiness and stability from newlywed interactions. *Journal of Marriage and the Family*, 60(1), 5–22.
- Gottman, J. M., & Levenson, R. W. (1985). A valid procedure for obtaining self-report of affect in marital interaction. *Journal of Consulting and Clinical Psychology*, 53(2), 151–160.
- Gottman, J. M., & Levenson, R. W. (1999). What predicts change in marital interaction over time? A study of alternative models. *Family Process*, 38(2), 143–158.
- Gottman, J. M., Levenson, R. W., Gross, J., Fredrickson, B. L., McCoy, K., Rosenthal, L., et al. (2003). Correlates of gay and lesbian couples' relationship satisfaction and relationship dissolution. *Journal of Homosexuality*, 45(1), 23–43.
- Gottman, J. M., Markman, H., & Notarius, C. (1977). The topography of marital conflict: A sequential analysis of verbal and nonverbal behavior. *Journal of Marriage and the Family*, 39(3), 461–477.
- Horowitz, M., Schaefer, C., Hiroto, D., Wilner, N., & Levin, B. (1977). Life event questionnaires for measuring presumptive stress. *Psychosomatic Medicine*, 39(6), 413–431.
- Jacobson, N. S., Gottman, J. M., Waltz, J., Rushe, R., Babcock, J., & Holtzworth-Munroe, A. (1994). Affect, verbal content, and psychophysiology in the arguments of couples with a violent husband. *Journal of Consulting and Clinical Psychology*, 62(5), 982–988.
- Keltner, D., & Buswell, B. N. (1997). Embarrassment: Its distinct form and appeasement functions. *Psychological Bulletin*, 122(3), 250–270.
- Keltner, D., & Haidt, J. (1999). Social functions of emotions at four levels of analysis. *Cognition and Emotion*, 13(5), 505–521.
- Keltner, D., Young, R. C., Heerey, E. A., Oemig, C., & Monarch, N. D. (1998). Teasing in hierarchical and intimate relations. *Journal of Personality and Social Psychology*, 75(5), 1231–1247.
- Kupperbusch, C. S. (2003). Change in marital satisfaction and change in health in middle-aged and older long-term married couples (Doctoral dissertation, University of California, Berkeley, 2002). *Dissertation Abstracts International*, 63, 4419.
- Levenson, R. W., Carstensen, L. L., & Gottman, J. M. (1993). Long-term marriage: Age, gender, and satisfaction. *Psychology and Aging*, 8(2), 301–313.
- Levenson, R. W., Carstensen, L. L., & Gottman, J. M. (1994). The influence of age and gender on affect, physiology, and their interrelations: A study of long-term marriages. *Journal of Personality and Social Psychology*, 67(1), 56–68.
- Levenson, R. W., & Gottman, J. M. (1983). Marital interaction: Physiological linkage and affective exchange. *Journal of Personality and Social Psychology*, 45(3), 587–597.
- Levenson, R. W., & Gottman, J. M. (1985). Physiological and affective predictors of change in relationship satisfaction. *Journal of Personality and Social Psychology*, 49(1), 85–94.
- Littleford, L. N., Wright, M., & Sayoc-Parial, M. (2005). White students' intergroup anxiety during same-race and interracial



- cial interactions: A multimethod approach. *Basic and Applied Social Psychology*, 27(1), 85–94.
- Locke, H. J., & Wallace, K. M. (1959). Short marital adjustment and prediction tests: Their reliability and validity. *Marriage and Family Living*, 21, 251–255.
- Murphy, J. K., Alpert, B. S., Willey, E. S., & Somes, G. W. (1988). Cardiovascular reactivity to psychological stress in healthy children. *Psychophysiology*, 25(2), 144–152.
- Pole, N. (2000). Client appraisals of danger and safety in psychotherapy and its physiological, facial, and subjective correlates (Doctoral dissertation, University of California, Berkeley, 2000). *Dissertation Abstracts International*, 61, 2217.
- Reis, H. T., & Judd, C. M. (2000). *Handbook of research methods in social and personality psychology*. New York: Cambridge University Press.
- Repetti, R. L., & Wood, J. (1997). Effects of daily stress at work on mothers' interactions with preschoolers. *Journal of Family Psychology*, 11(1), 90–108.
- Richards, J. M. (2001). Emotion regulation and memory (Doctoral dissertation, Stanford University, 2001). *Dissertation Abstracts International*, 61, 5059.
- Roberts, N. A., Kanter, J. W., Manos, R. C., Rusch, L., & Busch, A. (2006). *Physiological and behavioral changes in couples in response to individual relationship coaching*. Unpublished manuscript.
- Roberts, N. A., & Levenson, R. W. (2001). The remains of the workday: Impact of job stress and exhaustion on marital interaction in police couples. *Journal of Marriage and the Family*, 63(4), 1052–1067.
- Robins, R. W., Spranca, M. D., & Mendelsohn, G. A. (1996). The actor-observer effect revisited: Effects of individual differences and repeated social interactions on actor and observer attributions. *Journal of Personality and Social Psychology*, 71(2), 375–389.
- Ruef, A. M. (2001). Empathy in long-term marriage: Behavioral and physiological correlates (Doctoral dissertation, University of California, Berkeley, 2001). *Dissertation Abstracts International*, 62, 563.
- Shortt, J. W., & Gottman, J. M. (1997). Closeness in young adult sibling relationships: Affective and physiological processes. *Social Development*, 6(2), 142–164.
- Suinn, R. M., Rickard-Figueroa, K., Lew, S., & Vigil, P. (1987). The Suinn-Lew Asian Self-Identity Acculturation Scale: An initial report. *Educational and Psychological Measurement*, 47, 401–407.
- Tsai, J. L., & Levenson, R. W. (1997). Cultural influences on emotional responding: Chinese American and European American dating couples during interpersonal conflict. *Journal of Cross-Cultural Psychology*, 28(5), 600–625.
- Tsai, J. L., Levenson, R. W., & McCoy, K. (2006). Cultural and temperamental variation in emotional response. *Emotion*, 6(3), 484–497.
- Weis, R., & Lovejoy, M. C. (2002). Information processing in everyday life: Emotion-congruent bias in mothers' reports of parent-child interactions. *Journal of Personality and Social Psychology*, 83(1), 216–230.
- Zegiob, L. E., Arnold, S., & Forehand, R. (1975). An examination of observer effects in parent-child interactions. *Child Development*, 46(2), 509–512.